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ABSTRACT

This is the sixth issue of Social Sciences in Forestry which provides a current annotated bibliographic listing of references related to four major areas of forestry. The main categories include: (1) applications to forestry at large (containing citings on resources, history, legislation, economics, education, research, technology, and environmental concerns); (2) applications to forest management (with references to multiple use management, ownership of public lands, labor, and protection); (3) production of forest goods and services (addressing areas such as outdoor recreation, wilderness, range, and watershed management, urban forestry, wildlife and fish, and wood production); and (4) applications to forest industries (focusing on wood-using and other forest industries, marketing and trade, and transportation). This publication also contains an alphabetized author index. (ML)

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No. 67 June 1986

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A Current Selected Bibliography and Index

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PREFACE

This is the sixth issue of the Social Sciences in Forestry to be published at the University of Minnesota College of Forestry.

References submitted by foreign cooperators are acknowledged by the addition of the cooperator's initials directly following the annotation. We welcome contributions of either references to publications or the publications themselves. We would also welcome additional foreign cooperators, particularly from countries not represented on the title page of this issue. Anyone interested in serving as a cooperator should write to us at the University of Minnesota Forestry Library, 1530 North Cleveland Avenue, St. Paul, MN 55108.

Loans or xerox copies of publications indexed in Social Sciences in Forestry are available from the Interlibrary Loan Division, St. Paul Campus Libraries, 1984 Buford Avenue, St. Paul, MN 55108. U.S.D.A. employees, please use Standard Form AD-245 in submitting your requests. Others, please submit requests on the standard interlibrary loan forms through your nearest library.

We gratefully acknowledge the contributions of four people who have helped to bring this issue to press: Theresa Surprenant, data entry operator; Keith Belli, programmer; Clara Schreiber, word processing specialist; and Ruth Davidson, secretary.

Jean Albrecht
Patricia Rodkewich

CONTENTS

	Page
Social Sciences Applied to Forestry at Large	
General Publications	1
Forest Resources: Regional, National, International	3
History	5
Legislation	6
Policy	7
Planning	8
Appraisal and Valuation	10
Investment and Finance	11
Taxation	13
Subsidization	14
Economic Development	15
Social and Communal Forestry	17
Agroforestry	22
Sector Analysis	24
Professional Activities, Education, Employment of Foresters	26
Research Evaluation and Methodology	29
Technology Transfer and Extension	30
Environmental Concerns	31
Social Sciences Applied to Forest Management	
General	33
Multiple-Use Management	35
Ownership - Public Lands	36
Private Ownership - Industrial	37
Private Ownership - Nonindustrial	38
Labor Considerations - Work Studies	40
Protection	41
Production of Forest Goods and Services	
Outdoor Recreation	43
Wilderness Management-Nature Conservation-National Parks	52
Range Management	54
Urban Forestry	55
Watershed Management	56
Wildlife and Fish	57
Wood Production	59
Timber Harvesting	64
Timber Supply	68
Timber Sales	70
Social Sciences Applied to Forest Industries	
Wood-Using Industries	72
Other Forest Industries	76
Markets-Marketing-Trade	77
Transportation	86
Author Index	88

GENERAL PUBLICATIONS

637 ASEAN Forestry Congress, 1st, Manila, 1983, 1984. **Proceedings.** Quezon City, Philippines, Congress Organizing Committee, Bureau of Forest Development. 7 vols. in 3 books. 956 pp.

Book I contains vol. 1 (Executive summary); Book II contains vol. 2 (Management of natural forests), vol. 3 (Industrial forest plantations), and vol. 4 (Utilization of forest resources); and Book III contains vol. 5 (Social forestry technologies), vol. 6 (Management of national parks and other protected areas), and vol. 7 (Management of wildlife resources and reserves).

638 Helles, F., ed., 1985. **Current research in forest economics in the Scandinavian countries.** Royal Veterinary and Agricultural University, Dept. of Forestry, Reports, Series 2: Research no. 20. (Scandinavian Forest Economics no. 28) 216 pp.

Proceedings of the biennial conference of the Scandinavian Society of Forest Economics held at Skjoldenaesholm, Denmark, December 10-13, 1984.

639 Hibberd, B.G., 1986. **Forestry practice: A summary of methods of establishing, maintaining and harvesting forest crops, with advice on planning and other management considerations for owners, agents and foresters.** Forestry Commisssion Bulletin (Gt. Britain For. Comm.) no. 14, 10th ed. 104 pp.

Includes chapters on wildlife management, fire protection, management for timber production, harvesting, forest roads, marketing and utilization, recreation in the forest, etc.

640 Korinek, J., 1986. **[Short-term prognoses of economic parameters in the analysis of economic results.]** Lesnictvi 32:173-180.

In Czech, with Russian, English, and German summaries. (JR)

641 Kunst, P., 1986. **[Prospects of the development of management information system(s) in the forestry of the Czech Socialist Republic after 1985.]** Lesnictvi 32:115-125.

In Czech, with English, Russian, and German summaries. (JR)

642 Malaysia Ministry of Primary Industries, 1985. **Forestry in Malaysia.** Kuala Lumpur, Malaysian Timber Industry Board. 13 pp.

Undated; probable date, 1985.

643 Martin-Montalvo, R., comp., 1985. **[Spanish forestry publications 1978-1982.]** Universidad Politecnica de Madrid, Escuela Technica Superior de Ingenieros de Montes, Biblioteca y Centro de Documentacion. 290 pp. (RMM, GFT)

644 Nizon, V., 1985. **Forstwirtschaft in der Sowjetunion - ein Uberblick.** Schweizerische Zeitschrift fur Forstwesen 136:763-771.

In German. The paper gives a short review of the natural and economic elements of forestry in the Soviet Union. (WK, WK)

645 Oregon State University, College of Forestry, 1985. **Forest resources in the future of the Pacific Northwest.** Oregon State University, College of Forestry, 1985 Starker Lectures. 43 pp.

646 Ruprich, J. (conf. org.), Matovic, A., and Bartunek, J. (editors), 1985. **Aktuelle probleme der Betriebsfuhrung: Referaten und Diskussionsbetrage auf der Tagung der Arbeitsgruppe S4.04-02, IUFRO.** Brno, CSSR, Vysoka Skola Zemedelska. 203 pp.

Papers in German, Czech, or English. Selected papers are indexed. (JR)

647 Ruprich, J., 1986. **[Management information systems in the national economy and in forestry.]** Lesnictvi 32:99-106.

In Czech, with Russian, English, and German summaries. (JR)

648 U.S. Forest Service, 1986. **Report of the Forest Service, fiscal year 1985.** U.S. Forest Service. 160 pp.

649 Vlachos, E., 1985. **The future of renewable resources.** In: Oregon State University, College of Forestry, 1985 Starker Lecture. pp. 1-6.

650 Vogt, U., 1986. **Forstliche Impressionen aus Bhutan.** Schweizerische Zeitschrift fur Forstwesen 137:221-236.

In German. French summary. Bhutan is a mountain country, almost as large as Switzerland. With a percent of 60% of forested area, it offers a great deal of forest resources. (WK, WK)

651 Alig, R.J., 1986. **Econometric analysis of the factors influencing forest acreage trends in the Southeast.** Forest Science 32:119-134.
"This study was designed to investigate interrelationships among the major land uses in the Southeast, focusing on the influences of economic forces and demographic shifts." (p. 119)

652 Birdsey, R.A. and Jimenez, D., 1985. **The forests of Toro Negro.** U.S. Forest Service, Research Paper SO-222. 29 pp.
A report on the forest resources of the Toro Negro region of Puerto Rico.

653 Bonnor, G.M., 1985. **Inventory of forest biomass in Canada.** Ottawa, Canadian Forestry Service. 63 pp.
This report presents the results of the first national forest biomass inventory for Canada.

654 Frieswyk, T.S. and Malley, A.M., 1985. **Forest statistics for New Hampshire 1973 and 1983.** U.S. Forest Service, Resource Bulletin NE-88. 100 pp.
Includes tables containing estimates of forest area, numbers of trees, timber volume, tree biomass, and timber products output. Presents data at three levels: State, geographic unit and county.

655 Frieswyk, T.S. and Malley, A.M., 1985. **Forest statistics for Vermont 1973 and 1983.** U.S. Forest Service, Resource Bulletin NE-87. 102 pp.
Findings are displayed in 81 tables containing estimates of forest area, numbers of trees, timber volume, tree biomass, and timber products output. Data are presented at the state, geographic unit, and county levels.

656 Koch, P., 1985. **The resource.** In: Utilization of hardwoods growing on southern pine sites. U.S. Department of Agriculture, Agriculture Handbook 605. pp. 7-45.
Includes a section on national supply and demand for hardwood in 1970 and in 2000.

657 Oswald, D.D., 1986. **Analysis of change in timber volume on non-federal timberlands in Washington.** U.S. Forest Service, Resource Bulletin PNW-128. 22 pp.
"This report presents the findings of a study conducted to determine change in per acre timber volume on non-Federal timberlands in Washington from the mid-1960's to 1978-80."

658 Padhi, G.S., 1984. **Forest resources of Orissa.** Bhubaneswar, India, Oppo. Physics Institute. 94 pp. + 53 p. app.

659 Page, C.K., 1986. **The great Alabama forest.** Forest Farmer 45(6):6-7.
"No other state has proportionately as much forested acreage."

660 Rosson, J.F., Jr. and Bertelson, D.F., 1986. **Forest statistics for southwest Louisiana parishes.** U.S. Forest Service, Resource Bulletin SO-103. 31 pp.
Tabulates forest resource information from a new inventory of the Southwest Unit of Louisiana.

661 Rosson, J.F., Jr. and Bertelson, D.F., 1985. **Forest statistics for northwest Louisiana parishes.** U.S. Forest Service, Resource Bulletin SO-102. 31 pp.
A tabulation of forest resource information from a new inventory of the Northwest Unit of Louisiana.

662 Alston, R.M., 1985. **The role of forest resources in the regional development of the Pacific Northwest: An historical perspective.** In: Oregon State University, College of Forestry, 1985 Starker Lecture. pp. 30-43.

663 Clepper, H., 1986. **The fateful and historic Ballinger-Pinchot controversy.** American Forests 92(6):40-41, 55.
Chronicles the events surrounding the dismissal, in 1910, of Gifford Pinchot, Chief of the Forest Service, by Secretary of the Interior Richard A. Ballinger.

664 Gove, W.G., 1986. **New Hampshire's Brown Company and its world-record sawmill.** Journal of Forest History 30:82-91.
In Sept., 1900 the Berlin Mills Co. at Berlin, New Hampshire, using a single-cut band saw, set a world production record that still stands today.

665 Irland, L.C., 1986. **Rufus Putnam's ghost: An essay on Maine's public lands, 1783-1820.** Journal of Forest History 30:60-69.

666 Pinchot, G., 1986. **A forestry manifesto.** American Land Forum 6(2):28-32.
Exerpts from Pinchot's autobiographical account of the founding of forestry in America.

667 Rowley, W.D., 1985. **U.S. Forest Service grazing and rangelands: A history.** College Station, Texas A & M University Press. 270 pp.
History of grazing regulation on U.S. Forest Service lands since the beginning of the century.

668 Rubner, H., 1986. **[Do we need a "new forest history"?]** Forstarchiv 57:29-31.
In German with English summary. The author suggests the establishment of a new forest history organization at Gottingen or Berlin.

669 Twining, C.E., 1985. **Phil Weyerhaeuser, lumberman.** Seattle, University of Washington Press. 401 pp.
A biography of John Philip Weyerhaeuser, Jr. who was head of Weyerhaeuser Timber Co. from 1933-1956.

670 Whitney, G.G. and Davis, W.C., 1986. **From primitive woods to cultivated woodlots: Thoreau and the forest history of Concord, Massachusetts.** Journal of Forest History 30:70-81.

671 Saussay, C. du, 1983. **The evolution of forestry legislation for the development of rural communities.** Unasylva 35(142):14-23.

672 Clarke, J.N. and McCool, D., 1985. **Staking out the terrain, power differentials among natural resource management agencies.** Albany, State University of New York Press. 189 pp.

Provides a detailed analysis of 7 federal agencies: The U.S. Army Corps of Engineers, the U.S. Forest Service, the U.S. Bureau of Reclamation, the U.S. National Park Service, and the U.S. Fish and Wildlife Service.

673 Clawson, M., 1986. **Integrative concepts in natural resource development and policy.** In: Kates, R.W. and Burton, I., editors. Themes from the work of Gilbert F. White. Geography, resources, and environment. Vol. II. Chicago, University of Chicago Press. pp. 69-82.

The author argues that "natural resources must be defined broadly and that the formation of policy in this field must integrate many diverse and specialized pieces of knowledge."

674 Ellefson, P.V., 1986. **Political action committees.** Journal of Forestry 84(5):20-26.

675 Gluck, P., 1985. **Konstruktive Forstpolitikwissenschaft.** Allgemeine Forst- und Jagdzeitung 156:213-215.

In German. English summary. Dealing with Sir Karl Popper's "critical rationalism" Niesslein developed his own epistemological program that he calls "constructive rationalism." He wants to overcome the alleged weakness of critical rationalism and to correspond better to the needs of forest policy science. (WK, WK)

676 Kawamura, M. and Hirata, K., 1986. **[Public choice and consensus building in forestry products--a case study on forest road construction.]** Bulletin of the Kyoto University Forests 57:143-161.

In Japanese with English summary. "This research attempted a positive study of public choice in the decision making process of the individual forest management." (p. 160)

677 Adeyoju, S.K., 1983. **Striking a balance in land-use planning.** Unasylva 35(142):24-27.
A discussion of land use planning in developing countries.

678 Arano, R.R., 1984. **A conceptual framework for regional land-use planning and development.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II, pp. 413-428.

679 Burton, J.R., 1985. **Land use in indigenous forests: A trans-Tasman perspective.** Australian Forestry 48:173-182.
"A case is made for the multiple use of forested land, including indigenous forest, to meet multiple planning objectives." (p. 173)

680 Fowler, K.S. and Nautiyal, J.C., 1986. **A model for land use planning.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 257-267.

681 Gane, M., 1986. **TIMPLAN: A planning system for industrial timber-based development.** Commonwealth Forestry Review 65:41-49.
"A dynamic simulation modelling system for forestry planning is described... The system provides a generalised model of timber production and processing... It can be used in any country at national level or for regions, areas or projects."

682 Hof, J.G., Marose, R.K., and King, D.A., 1985. **Potential pitfalls in renewable resource decision making that utilizes convex combinations of discrete alternatives.** Western Journal of Agricultural Economics 10:391-400.

683 Hofstad, O., 1985. **A positive theory on the balance quantity in Norwegian forest planning.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 7-23.
"Balance quantity," the Norwegian term for maximum sustained yield, "has been a basic element of almost all forest planning in the country during the last 20 years." (p. 7)

684 Hrubes, R.J., 1984. **Economic efficiency in Forest Service program development.** U.S. Forest Service, General Technical Report PSW-75. 9 pp.
"This report analyzes the procedures used in three regions of the Forest Service...for selecting the projects that constitute their annual program budget." (abstract)

685 Huria, V.K. and Achaya, K.T., 1983. **Meeting basic needs through micro-planning--central role of essential forestry. 2.** Economic and Political Weekly 18(35):1527-1538.

686 Huria, V.K. and Achaya, K.T., 1983. **Meeting basic needs through micro-planning, central role of essential forestry.** Economic and Political Weekly 18(34):1476-1491.

687 Kolenka, J., 1985. **Mathematical models of decision and planning in forestry economics.** Vedecke a Pedagogicke Aktuality no. 2. 64 pp.

In Czech with summaries in Russian and English. "This publication is devoted to mathematical models and their utilization for optimal decision and planning in forestry economics." (p. 63)

688 Lindberg, R.D. and Hovind, H.J., 1983. **A strategic plan for Wisconsin's forests.** Wisconsin Dept. of Natural Resources, Bureau of Forestry. 121 pp.

689 Marlow, J.A., 1985. **Land use planning for forest harvesting and environmental concerns.** University of Alberta, Faculty of Agriculture and Forestry, Forest Industry Lecture Series no. 16. 17 pp.

690 Novotny, M., 1986. **[Problems and results of the formation of management information systems in forestry.]** Lesnictvi 32:107-114.

In Czech, with Russian, English, and German summaries (JR)

691 Tuan, M.S., 1984. **Forest land use with particular reference to Peninsular Malaysia.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 314-329.

692 Brabander, H., 1986. **Bewertung der Waldschaden - eine Zwischenbilanz.** Holz-Zentralblatt 112:145-146, 153.

In German. Scenarios based on different suppositions are presented in order to get an idea of the economic damages caused by the forest decline. For forestry in West Germany the total monetary damage lies between 369 and 487 billions of DM. (WK, WK)

693 Keuffel, W. and Mohring, B., 1986. **[Using simulation models to calculate economic effects of air pollutants on Norway spruce in a forest enterprise.]** Forstarchiv 57:15-19.

In German. English summary. Decrease of assests in standing timber, caused by effects of air pollutants, should be calculated by dynamic calculation models. The simulation model developed works with a spreadsheet of a personal computer. The given example of 1700 ha spruce management unit shows within a decade losses between 1, 3 and 2.7 million DM. (WK, WK)

694 Pulkrab, K., 1985. **Economic valuation of forest resources.** In: Ruprich, J. et al. Aktuelle probleme der Betriebsfuhrung. pp. 157-160. (JR)

695 Watson, W.F., Bullard, S.H., and Straka, T.J., 1986. **It pays to know how your timber will be valued.** Forest Farmer 45(6):14-16.

696 Anderson, W.C., Guldin, R.W., and Vasievich, J.M., 1985. **Risk assessment of investments in loblolly pine plantations threatened by bark beetles.** In: Integrated Pest Management Research Symposium, Asheville, NC, 1985. Proceedings. U.S. Forest Service, General Technical Report SO-56:328-334.

"The Hertz-Thomas method of risk analysis, which involves Monte Carlo simulation, was applied to plantations grown on a 35-year rotation that included two site classes, two intermediate management options, and three beetle attack levels. The plantations were assessed in terms of internal rate of return earned on the investment."

697 Appalachian Society of American Foresters, 1985. **This business of forestry: Proceedings of the Third Regional Technical Conference at the 64th annual meeting of the Appalachian Society of American Foresters, Norfolk, Virginia, Jan. 23-25, 1985.** Raleigh, NC, Society of American Foresters. 123 pp.

Provides an overview of the financial aspects of forest management. Selected articles are indexed in this issue.

698 Bush, C.E., 1985. **Investing in forestry: The corporate point of view.** In: Appalachian Society of American Foresters. This business of forestry. pp. 1-7.

A discussion of why the forest industry is reassessing its timberland investment strategy along with a discussion of the characteristics of timberland as an investment and the types of investors to which it should appeal.

699 Canham, H.O., 1986. **Break-even benefit/cost model: A useful tool for forestry decision-making.** Northern Journal of Applied Forestry 3:14-16.

"In forestry activities, particularly those involving multiple use, evaluating benefits is difficult. The break-even benefit/cost model eases the problem somewhat...." (p. 14)

700 Frazer, E.C., III, 1986. **Timberland investments: A consultant views the opportunities.** Forest Farmer 45(7):6-7.

701 Gantner, A.G., 1985. **Polish forestry financing system under conditions of economic reorganization.** In: Ruprich, J. et al. Aktuelle probleme der Betriebsfuhrung. pp. 5-9. (JR)

702 Howe, B.I., 1985. **Financing forestry.** Commonwealth Forestry Review 64:345-348.

"If the government is willing to accept the responsibility for funding forest renewal, the private sector would invest its expertise to produce the results." (p. 348) The author is president of B.C. Resources Investment Corporation, Vancouver.

703 Klemperer, W.D., 1986. **Adjusting timberland lease payments for stumpage price-changes.** Northern Journal of Applied Forestry 3:22-25.

704 Lofgren, K.G., 1986. **Uncertainty and dynamic consistent delivery contracts for a renewable natural resource.** Sveriges Lantbruksuniversitet, Institutionen for Skogsekonomi, Arbetsrapport no. 48. 26 pp.

705 New Zealand Forestry Council, 1985. **Guidelines for participants in joint venture forestry.** New Zealand Forestry Council, Information Paper no. 1. 36 pp.

"A joint venture forestry agreement is contractual arrangement between a landowner and an investor, where the landowner gives the investor the right to establish, manage and harvest a forest on his land." (p. 5)

706 Rideout, D., 1986. **The trouble with benefit-cost ratios: Benefit cost ratio maximization versus wealth maximization.** Canadian Journal of Forest Research 16:142-144.

This paper "analyzes benefit-cost ratios, as a maximization objective, by using the criterion of net present value." (p. 142)

707 Risbrudt, C.D. and Pitcher, J.A., 1986. **Financial returns from timber stand improvement investments.** Northern Journal of Applied Forestry 3:52-58.

708 South, P.M., 1985. **Making the best of investment resources.** Commonwealth Forestry Review 64:349-357.

"The more successful forestry project is characterized by the clear definition of the investor's objectives and the objectivity of its pre-planning." (p. 349)

709 Stier, J.C. and Dederich, P.K., 1985. **Financial record book for timber growers.** University of Wisconsin-Madison, College of Agr. and Life Sci., School of Nat. Res., Dept. of Forestry. 59 pp.

"Intended for use by private woodlot owners whose holdings are not extensive...." Includes an appendix on "Federal income taxes and the record book."

710 Vasievich, J.M., 1985. **Tools and techniques of forest finance.** In: Appalachian Society of American Foresters. This business of forestry. pp. 56-68.

This paper "reviews the elements of financial analysis for forest management investments." (p. 56)

711 Boyd, R., 1986. **Forest taxation: Current issues and future research.** U.S. Forest Service, Research Note SE-338. 14 pp.
Describes existing state and federal forest taxes and presents the issues connected with each kind of forest tax in light of past and current debates on their impacts and relative merits. (p. 1)

712 Eickhoff, W.D. and Hamilton, R.A., 1985. **Federal and state income taxes for North Carolina timber growers.** North Carolina State University, Agricultural Extension Service, AG-296. 1984, revised, 1985. 46 pp. + app.

713 Heaps, T. and Helliwell, J.F., 1985. **The taxation of natural resources.** In: Auerbach, A.J. and Feldstein, M. Handbook of public economics. Vol. 1. pp. 421-472.
Includes information relating to fisheries, forestry, mining, oil and natural gas, and hydro-electricity.

714 Holten-Andersen, P., 1984. **[The influence of taxation on the after-tax yield of Danish forestry.]** Royal Veterinary and Agricultural University, Dept. of Forestry, Reports, Series 2: Research no. 19. 101 pp.
In Danish with English summary.

715 Hoover, W.L., 1986. **Timber tax management.** Purdue University, Dept. of Forestry and Natural Resources, FNR-80, 2d ed. var. pag.
Intended to serve as a broad introduction to the subject.

716 Bailey, H.B., Jr., 1982. **Sources of capital for management of private nonindustrial forest lands.** Technical Association of the Pulp and Paper Industry, Proceedings 1982 Research and Development Division Conference. pp. 219-222.

The author defines capital as "long term credit with deferred payment of principal, and as cost-share money." Emphasis is on conditions in the southeastern U.S.

717 Goransson, M. and Lofgren, K.G., 1986. **[An economic analysis of the regional support for forestry.]** Sveriges Lantbruksuniversitet, Institutionen for Skogsekonomi, Rapport 62. 164 pp.

718 Harou, P.A., 1985. **Comparison of methodologies to evaluate aid programs to nonindustrial private forests.** Silva Fennica 19:365-375.

"A methodology to evaluate forestry programs aimed at increasing timber supply from nonindustrial private forests is presented that aggregates the marginal social cost and marginal social benefit of a sample of program participants and compares them in a benefit-cost efficiency ratio." (p. 365)

719 Richardson, D., 1985. **The role of the state in the regulation of yield from private forests.** New Zealand Forestry Council, Working Paper no. 4. 22 pp.

720 Dargavel, J. and Simpson, G., editors, 1985. **Forestry: Success or failure in developing countries?** Canberra, Australian National University, Centre for Resource and Environmental Studies, CRES Working Paper 1985/20. 95 pp.

"This collection of papers critically examines the success or failure of forest sector development in underdeveloped countries." The five papers are indexed separately in this issue.

721 Dargavel, J., Hobley, M., and Kengen, S., 1985. **Forestry of development and underdevelopment of forestry.** In: Dargavel, J. and Simpson, G., eds. Forestry: Success or failure in developing countries? pp. 1-37.

"This paper presents a case that the forestry of development is seriously underdeveloped. The modes of colonial, industrial and social forestry are reviewed."

722 Leslie, A.J., 1985. **A plague on all your houses: Reflections on twenty years of forestry for the Third World development.** In: Dargavel, J. and Simpson, G., eds. Forestry: Success or failure in developing countries? pp. 86-95.

"Aid agencies commonly fail to adapt their programmes to recipients' needs." (p. 86)

723 Schmithusen, F., 1983. **The weak link in forestry development.** Unasylva 35(142):36-44.

"The lack of trained personnel and educational facilities is in many developing countries still one of the principal impediments to forestry and forest industries development." (p. 36)

724 Simpson, G., 1985. **Conflict, consultants, project packages and sustainable rural development programmes.** In: Dargavel, J. and Simpson, G., eds. Forestry: Success or failure in developing countries? pp. 73-85.

"The failure to address political and administrative institutional problems is a major obstacle to sustaining many rural development programmes in third world countries." (p. 73)

725 Spears, J., 1985. **Deforestation issues in developing countries: The case for an accelerated investment programme.** Commonwealth Forestry Review 64:313-343.

"Given appropriate government policies and institutional support, there is much that can be done through well designed forestry investment programmes to help accelerate...grass roots movements and to contain the negative effects of deforestation in the worst affected countries." (pp. 313-314)

726 Steinlin, H., 1983. **Forestry for development: The need for appropriate research.** Unasylva 35(142):28-33.

The author advocates the need for appropriate forestry research, that is, "research linked to specific socio-economic conditions and forestry needs in a particular country."

727 Tomas, J.G.F., 1983. **Four critical elements.** Unasylva 35(142):34-35.

"In forestry project planning there are four elements--goal definition, vertical integration, financing and institutional approach."

728 Allen, J.C., 1985. **Wood energy and preservation of woodlands in semi-arid developing countries, the case of Dodoma Region, Tanzania.** Journal of Development Economics 19:59-84.

"At present little land and labor resources are expended on energy production, but the woodlands of Dodoma are disappearing, causing villagers to save time by switching from fuelwood collected on foot to charcoal shipped in by truck." (p. 59)

729 Belliappa, K.A., 1982. **Social forestry in Gujarat.** Myforest 18:83-95.

730 Byron, N., 1985. **Rural versus state forestry in Bangladesh.** In: Dargavel, J. and Simpson, G., eds. Forestry: Success or failure in developing countries? pp. 50-72.

"This paper compares and contrasts the forestry practised in Bangladesh by the state on public land with that by rural landowners on village or homestead properties." (p. 50)

731 Cadelina, R.V., 1985. **The sociological ecology of social forestry in the Philippines.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 235-249.

"The basic theme of this paper is that social forestry, as both a concept and a strategy for improving the welfare of forest farmers and protecting and conserving the forests of the Philippines, should be visualized in its proper context and perspective. Social forestry aims at realizing certain resource conservation goals by undertaking various agroforestry activities." (p. 235)

732 Cernea, M.M., 1985. **Alternative units of social organization sustaining afforestation strategies.** In: Cernea, M.M., ed. Putting people first, sociological variables in rural development. New York, Published for the World Bank by Oxford University Press. pp. 267-293.

The author addresses the "institutional and socio-structural issues in social forestry development." (p. 267)

733 Chandrasekharan, C., 1983. **Rural organizations in forestry.** Unasylva 35(142):2-11.

"Without effective local organizations it is difficult to institute forestry programmes in rural areas." (p. 2)

734 Chatterjee, N., 1985. **Economic aspects of social forestry in India.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 67-114.

735 Chetty, N.V.R., 1983. **Forest based small scale and rural industries with particular reference to linkages with social**

forestry programmes. Myforest 19:239-256.

736 Chowdhry, K., 1985. **Social forestry: Who benefits?** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 55-66.

737 Dove, M.R., 1985. **Government perceptions of traditional social forestry in Indonesia: The history, causes and implications of state policy on swidden agriculture.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 173-197.

"Forest policy and programming in Southeast Asia today is marked by the total absence of any appreciation...of traditional systems of forest exploitation. It is the purpose of this paper to explore the reasons for this absence, taking swidden agriculture in Indonesia as a case study." (p. 174)

738 Hamilton, C., 1985. **Social forestry from the perspective of the labour theory of value.** In: Dargavel, J. and Simpson, G., eds. Forestry: Success or failure in developing countries? pp. 38-49.

"This paper discusses the evaluation of a social forestry project being undertaken in the hills of Nepal." (p. 38)

739 Hoskins, M., 1983. **Mobilizing rural communities.** Unasylva 35(142):12-13.

Examples from Nepal, Haiti, and Senegal.

740 Hyman, E., 1986. **A linear programming model for analyzing economic, social and environmental impacts of woodfuel policy alternatives in the Philippines.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 325-334.

"This paper represents an application of the FUELPRO model to analyze the policy options for dealing with fuelwood shortages." (p. 325)

741 Kenny-Jordan, C.B., 1985. **Rural development: A new world for foresters, a difficult challenge for teachers of forestry.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 16. pp. 170-178.

"In the hope of improving and expanding social forestry programmes in the Andes" the author attempts "to explain the forester's role in preparing the rural farmer for the execution of forestry activites." (p. 171)

742 Koirala, B.P., 1985. **People's participation in forestry--a must for Nepal.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 227-232.

743 Lovelace, G.W., 1985. **Human ecology: A conceptual framework for research and development in community and social forestry.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 18-28.

Many foresters throughout the world, and especially in the developing world, are involved in a wide range of local development activities, and are asked to make recommendations and decisions about things that directly affect people. (p. 18)

744 Nair, C.T.S. and Krishnankutty, C.N., 1985. **Socio-economic factors influencing farm forestry: A case study of tree cropping in the homesteads in Kerala, India.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 115-130.

745 Noronha, R. and Spears, J.S., 1985. **Sociological variables in forestry project design.** In: Cernea, M.M., ed. Putting people first, sociological variables in rural development. New York: Published for the World Bank by Oxford University Press. pp. 227-266.

"This chapter sets out some of the sociological lessons and understandings gleaned from designing and implementing social forestry projects, mainly those assisted by the Bank...." (p. 227)

746 Payuan, E., 1985. **Top-down verus bottom-up: Comparative approaches to the promotion of social forestry in the Philippines.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 250-259.

747 Rambo, A.T., 1984. **Community forestry--the social view.** In: Regional Workshop on Community Forestry, Korat, Thailand, 1983. Community forestry: Some aspects. pp. 39-46.

"Foresters attempting to carry out community forestry projects need to learn to deal with social factors as a central part of their work." (p. 45)

748 Ramitanondh, S., 1985. **Socio-economic benefits from social forestry: For whom? (the case of northern Thailand)** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 343-362.

"The purpose of this paper...is to find an answer to the question of who are the real beneficiaries of social forestry." (p. 343)

749 Rao, Y.S., 1984. **Community forestry: Requisites and constraints.** In: Regional Workshop on Community Forestry, Korat, Thailand, 1983. Community forestry: Some aspects. pp. 4-15.

"If forestry is to contribute to the bettering of conditions of the rural poor, a radical reorientation extending from policy to its technical foundations will often be needed." (p. 15)

750 Rao, Y.S., Vergara, N.T., and Lovelace, G.W., editors, 1985. **Community forestry: Socio-economic aspects.** Bangkok, FAO

Regional Office for Asia and the Pacific. 420 pp.

"This publication is a compendium of papers presented at the Regional Workshop on Socio-Economic Aspects of Community/Social Forestry in the Asia and the Pacific Region held in Bangkok from 18-22 September 1984." Selected papers are indexed in this issue.

751 Rathakette, P., Somnasang, P., Ratanapanya, S., and Homchoen, S., 1985. **Taboos and traditions: Their influence on the conservation and exploitation of trees in social forestry projects in northeastern Thailand.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 363-370.

"One taboo related to human-forest interactions in Northeast Thailand involves sacred groves." (p. 364)

752 Rebugio, L.L., 1985. **A brief analysis of socioeconomic constraints to social forestry in the Philippines.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 328-339.

753 Regional Workshop on Community Forestry, Korat, Thailand, 1983, 1984. **Community forestry: Some aspects.** United Nations Development Programme; Environment and Policy Institute, East-West Center (Honolulu); Regional Office for Asia and the Pacific (RAPA) of the FAO (Bangkok). 149 pp.

Copies available from: Regional Forest Economist, FAO Regional Office for Asia and the Pacific, Maliwan Mansion, Phra Atit Road, Bangkok, Thailand. Selected papers from the Workshop are indexed in this issue.

754 Ruangpanit, N., 1985. **Manpower and technological constraints in community forestry projects and programmes in Thailand.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 371-384.

755 Sarma, M.T.R., 1985. **Employment and income aspects of social forestry programmes in India and the Philippines.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 131-154.

Discusses case studies of social forestry programs carried out in selected locations in India and the Philippines.

756 Segura de los Angeles, M., 1985. **Economic and social impact analysis of an upland development project in Nueva Ecija, Philippines.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 260-304.

"The study focuses on agroforestation projects involving shifting cultivators, and illustrates methods of analyzing the progress and impact of three pilot agro-forestation development projects." (p. 261)

757 Shukla, R., 1985. **Social forestry programme: Study and action:**

A basis for framework. In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 155-170.

Section 3 of the paper deals with internal rate of return and public and private investment in social forestry.

758 Sri Bharathie, K.P., 1985. **Stabilization of rural communities through community forestry in Sri Lanka.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 401-406.

759 Sumitro, A., 1985. **Social impact of commercial timber extraction upon local communities in Indonesia's tropical rain forests.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 215-224.

760 Vergara, N.T., 1985. **Expanding populations and shrinking resources: The economic setting and development potential for social forestry.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 3-17.

Social forestry is "one of the strong candidates for adoption as a strategy to socio-economic development, particularly in the economically-depressed rural areas of the Third World countries." (p. 4)

761 Vergara, N.T., 1985. **Research--a prerequisite to effective social forestry projects.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 40-51.

762 Burley, J. and Savill, P.S., 1985. **Agroforestry networks in Africa.** London, Commonwealth Science Council, CSC Technical Publication Series no. 153. 103 pp.

This report is the record of consultancy visits in January, 1985, to Kenya Malawi and Uganda...and to Ghana, Nigeria and Sierra Leone. Two of the objectives were: To assess national resources and capabilities, and to assist countries in the preparation of national agroforestry research projects.

763 Christanty, L. and Iskandar, J., 1985. **Development of decision-making and management skills in traditional agroforestry: Examples in West Java.** In: Rao, Y.S. et al., eds. Community forestry: Socio-economic aspects. pp. 198-214.

"This paper attempts to examine the development of decision making and management skills in a traditional agro-forestry system in West Java." (p. 198)

764 Club du Sahel, 1984. **L'agroforestrie dans le Sahel ouest africain.** Paris, Organisation de Cooperation et de Developpement Economiques; Comite Permanent Inter-Etats de Lutte Contre la Secheresse dans le Sahel. 102 pp.

In French.

765 Grison, F., 1984. **Agrisylviculture from the standpoint of the management and conservation of forest resources.** In: Tropical Rain-Forest: The Leeds Symposium, 1982. Leeds, UK, Leeds Philosophical and Literary Society. pp. 273-277.

766 Hoare, P.W.C., 1984. **Techniques for enlisting farmers participation in the planning and implementation of agroforestry projects.** In: Regional Workshop on Community Forestry, Korat, Thailand, 1983. Community forestry: Some aspects. pp. 82-87.

767 Mercer, D.E., 1985. **Guidelines for planning agroforestry development projects.** Honolulu, East-West Center, Environment and Policy Institute, Working Paper. 110 pp.

The author's purpose is to synthesize "the rapidly growing literature on agroforestry into practical guidelines for planning agroforestry projects." (p. 2)

768 Rambo, A.T., 1984. **Why shifting cultivators keep shifting: Understanding farmer decision-making in traditional agroforestry systems.** In: Regional Workshop on Community Forestry, Korat, Thailand, 1983. Community forestry: Some aspects. pp. 73-81.

769 Setty, K.R.V., 1983. **Agriculture and forests.** Myforest 19:203-208.

770 Setty, K.R.V., 1983. **Agro-forestry.** Myforest 19:113-121.

771 Van den Beldt, R.J., editor, 1986. **Agroforestry research in the semi-arid tropics: A report on the Working Group Meeting held at ICRISAT Center, India, 5-6 August 1985.** Patancheru, A.P., India, International Crops Research Institute for the Semi-Arid Tropics. 59 pp.

772 Vergara, N.T., 1984. **Agroforestry systems under community forestry: Concept, classification and use in the humid tropics.** In: Regional Workshop on Community Forestry, Korat, Thailand, 1983. Community forestry: Some aspects. pp. 16-26.

773 Young, A., 1985. **Land evaluation and agroforestry diagnosis and design: Toward a reconciliation of procedures.** Soil Survey and Land Evaluation 5(3):61-76.

774 Andersson, A., Kallio, M., and Seppala, R., 1986. **Systems analysis for the forest sector.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 1-23.
"The issues covered range from forest management and forest industrial strategy to international trade in forest products and structural change in the forest sector worldwide." (p. 1)

775 Andersson, A.E., Kallio, M., and Seppala, R., 1984. **Systems analysis for the forest sector.** International Institute for Applied Systems Analysis, Working Paper WP-84-17. 51 pp.
"This article is an overview of systems analysis in forestry and forest industries. The issues covered range from forest management and forest industrial strategy to international trade in forest products and structural change in the forest sector worldwide." (p. v)

776 Castanos M., L.J., 1984. **Sectorial program temperate and tropical forests: Departure pointcourse: 1983 results and 1984 actions.** Mexico, D.F., Comision Forestal de America del Norte, Delegacion Mexicana; SARH; FAO. [25 pp.]
At head of title: Secretary of Agriculture and Hydraulic Resources, Undersecretary of Forestry.

777 Kallio, M., Propoi, A., and Seppala, R., 1986. **A model for the forest sector.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 89-112.
"This paper describes a multicriteria dynamic linear programming model for studying long-range development alternatives of forestry and forest-based industries at a national and regional level. The Finnish forest sector is used as an object of implementation and for numerical examples." (p. 89)

778 Kallio, M., Propoi, A., and Seppala, R., 1985. **A model for the forest sector.** International Institute for Applied Systems Analysis, Research Report RR-85-4. 25 pp.
"This report describes a dynamic linear programming model for studying long-range development alternatives for forestry and forest-based industries at the national and regional level." (p. iii)

779 Kallio, M., Andersson, A.E., Seppala, R., and Morgan, A., editors, 1986. **Systems analysis in forestry and forest industries.** New York, Elsevier. TIMS Studies in the Management Sciences vol. 21. 487 pp.
"The purpose of this book is to present a variety of articles revealing the state of the art of applications of systems analysis techniques to problems of the forest sector." (p. 9) Selected articles are indexed in this issue.

780 Koljonen, K., 1983. **Inter-industry linkages of forestry and forest industry sectors in the Tanzanian economy.** Silva Fennica 17:273-278.

The economic sectors of Tanzania are compared using input/output analysis. "The contribution of forestry alone to the national economy is very modest" but "when combined with sawmilling and other forest industries, its development impact can be considerable." (p. 277)

781 Lonnstedt, L., 1986. **A dynamic simulation model for the forest sector with an illustration for Sweden.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 123-141.

"This paper describes a dynamic simulation model for long-term development of the forest sector. The model is developed for analyzing the impact of cost competitiveness and wood availability on the structural change of the forest sector in a particular country over a 20-30 y period." (p. 123)

782 Nilsson, S., 1985. **An analysis of the British Columbia forest sector around the year 2000. Volume I.** Vancouver, University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-1. 184 pp.

"This report presents the results of a long-term economic analysis of the British Columbia forest sector." (p. i)

783 Nilsson, S., 1985. **An analysis of the British Columbia forest sector around the year 2000. Volume 2: Data used in the baseline analysis.** Vancouver, University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-2. 111 pp.

784 Peyron, J.L., 1985. **The necessity of French forest sector models.** In: Ruprich, J. et al. Aktuelle probleme der Betriebsfuhrung. pp. 40-56. (JR)

785 Risvand, J., 1985. **Contribution of the forest sector to the national economy.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 44-54.

Discussion of the Danish forest sector.

786 Solberg, B., 1986. **Macro-economic models for long-term forest sector analysis in Norway.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 113-121.

The two objectives of the paper are (1) to give "a brief account of two multi-sectoral growth economic models called MSG-3 and MSG-R" and (2) to describe "how these two models could be used for analysing major problems in the forest sector." (p. 113)

787 Anziani, M.P., 1985. **Training needs for forestry teaching staff in Latin America.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 6. pp. 31-42.

788 Bostrand, L., 1985. **Ergonomics in forestry.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 9. pp. 70-82.
Ergonomics should be a part of forestry education curricula.

789 Bullard, S.H. and Straka, T.J., 1986. **Continuing education needs of natural resource professionals.** Resource Management and Optimization 3:281-290.
"Causes of professional obsolescence are briefly reviewed with emphasis on natural resource managers. Foresters' needs and continuing education efforts are discussed to illustrate continuing education concepts in an environmental and natural resource-related profession." (p. 281)

790 Cooper, R.J., 1985. **Development of courses in forest products marketing.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 14. pp. 132-153.
"This paper is intended to provide guidelines for the design of a curriculum on international forest products marketing mainly for use in university-level degree courses in developing countries." (p. 132)

791 Dohaney, M.T., 1984. **Teaching second year student foresters the write stuff.** Forestry Chronicle 60:288-289.
Teaching technical writing to forestry students.

792 FAO Advisory Committee on Forestry Education, 1985. **Report of the Thirteenth Session...Mexico City, 26-28 June, 1985.** Rome, Food and Agriculture Organization of the United Nations, FO:ACFE-85/Rep. 204 pp.
Selected articles are indexed in this issue.

793 Fortin, I.A. de and Membreno, B., 1985. **Educational credit in the socio-economic development of Honduras.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 8. pp. 48-69.

794 Gitelson, R.J., 1986. **Role conflict and role ambiguity in the National Park Service.** Journal of Park and Recreation Administration 3(4):11-21.
This study "looked at two forms of role stress, role conflict and role ambiguity, within the National Park Service. The sample included park superintendents and those employees who report directly to the superintendent." (p. 11)

795 Gonzalez, F.G., 1985. **Forestry education and training in Latin**

America: Problems and perspectives. In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 3. pp. 13-20.

796 Ihalainen, R., 1985. **[The abandonment of studies in vocational training in forestry.]** Folia Forestalia no. 638. 36 pp.
In Finnish with English summary. "The aim of this study is to clarify the reasons for and the extent of the abandonment of vocational training in forestry in Finland."

797 Jennings, K.S. and Bacon, G.J., 1983. **A profile of the Australian forestry profession.** Australian Forestry 46:181-186.

798 Kennedy, J.J. and Mincolla, J.A., 1982. **Career evolution of young 400-series U.S. Forest Service professionals.** Utah State University College of Natural Resources and Agricultural Experiment Station. Career Development Project Report 1. 86 pp.
A revision of August, 1982 draft copy. The general goal of the project was to describe the similarities and differences in backgrounds, attitudes, values, expectations and career development of the new professionals in the Forest Service and their supervisors. (p. 6)

799 Lantican, C.B., 1985. **Education and training for forest industries in the Philippines.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 11. pp. 93-107.

800 Merchant, H.F. and Williams, J.J., 1985. **Effects of a forest resource education program on grade 6 students.** Petawawa National Forestry Institute, Information Report PI-X-54. 31 pp.
"The effects of the Petawawa Resource Education Program (PREP) in altering children's knowledge about attitudes toward forest resources were investigated."

801 Merriam, L.C., 1986. **The development of the Recreation Resource Management Program in the College of Forestry, University of Minnesota.** University of Minnesota, College of Forestry, Dept. of Forest Resources, Staff Paper Series no. 56. 26 pp.

802 Ofosu-Asiedu, A. and Liese, W., 1985. **Managerial training in wood utilization at the University of Science and Technology, Kumasi, Ghana.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 12. pp. 108-117.

803 Pastor, M.R., 1985. **Forestry education in rural schools in the Peruvian highlands.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 7. pp. 43-47.

804 Redhead, J.F. and Ruangpanit, N., 1985. **Curriculum development in social forestry in Thailand.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix

15. pp. 154-169.

805 Richter, H.G. and Fruhwald, A., 1985. **Wood science and technology education at Latin-American universities--present status and future needs.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 13. pp. 118-131.

806 Sommer, S.L. and Armstrong, J.P., 1984. **Wood science curricula: A plan for improved enrollment.** Wood and Fiber Science 16:466-471.
"A marketing plan for increasing Wood Science and Technology enrollment at Michigan Technological University is outlined."

807 Stock, M., Force, J.E., and Ehrenreich, D., editors, 1983. **Directory of women in international natural resources.** University of Idaho, Forest, Wildlife and Range Experiment Station. 101 pp.

808 Stoltenberg, C., 1985. **The college student and the forest industry.** In: Pacific Logging Congress. World markets, methods & friends. Loggers Handbook 45:50-53.

809 Strehlke, B., 1985. **Issues and trends in forest worker training.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 10. pp. 83-92.

810 Terrazas, V.A., 1985. **Forestry education prospects in Mexico: The case of the Technical Forestry Schools.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 5. pp. 26-30.

811 Terrazas, V.A., 1985. **Structure of forestry education in Mexico.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 4. pp. 21-25.

812 Thompson, E.F., 1986. **Auburn symobolizes excellence in forestry education.** Forest Farmer 45(6):8-9.
Describes the educational programs at Auburn University School of Forestry, Auburn, Alabama.

813 Warren, B.J., 1986. **Forest Farmers Association works for forestry.** Forest Farmer 45(6):10-11.

814 West, K., 1985. **The need for the forestry profession to speak out in the public debate.** Australian Forestry 48:146-151.
"The forestry profession needs...to cite its technical expertise as a major reason for the profession accepting a national obligation to play a much more prominent part than it has previously played in the community and political debate about land use planning and management." (p. 151)

815 FAO Forestry Department, 1985. **World list of institutions engaged in forestry and forest products research.** Rome, Food and Agriculture Organization of the United Nations, FAO Forestry Paper no. 62. 166 pp.

816 Forest Products Research Conference, Madison, 1985. 1986. **Cooperative research in a competitive world.** U.S. Forest Service, Forest Products Laboratory. 47 pp.

Contains the major addresses and report from the Conference. Several sections deal with the USDA Competitive Research Grants Program. Individual papers are not indexed.

817 Lundgren, A.L., 1986. **A resume of forestry research priorities in the Asia/Pacific region.** Honolulu, East-West Center, East-West Environment and Policy Institute, Working Paper. 33 pp.

818 Palo, M., 1985. **Nordic Institute for Natural Resources: A feasibility study.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 91-103.

"Strategic planning aims to discover long and medium term priorities in major information system development options. A case application of a previous strategic planning framework for a feasibility study of a new Nordic Research Institute for Natural Resources (NINA) is introduced." (p. 91)

819 Palo, M., 1985. **Strategic planning of forest research.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 78-90.

"The purpose of this paper is to introduce a conceptual framework and an approach for the strategic planning of the information system development applicable to varying situations in forest sectors in different countries. Research is viewed as a major component in this integrated information system." (p. 79)

820 Brevig, F.K., 1985. **Forestry extension service in the Nordic countries.** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 17. pp. 179-184.

821 Connor, M.D. et al., 1985. **Incorporating pest management technology into land management decisionmaking: Holly Springs National Forest, Mississippi.** In: Hertel, G.D. et al., eds. Technology transfer in integrated forest pest management in the South. pp. 21-30.

Co-authors are: D.A. Starkey, W.A. Nettleton, J. Fort, S. Weaver, R.J. Uhler, and M.N. White.

822 Hermelin, J. and Murphy, P.J., 1985. **A "triple A" rated method to help private woodlot owners to help themselves. (A case study of the development of a private woodlot assistance programme in the Province of New Brunswick, Canada.)** In: FAO Advisory Committee on Forestry Education. Report of the 13th session. Appendix 18. pp. 185-192.

823 Hertel, G.D., Branham, S.J., and Swain, K.M., Sr., editors, 1985. **Technology transfer in integrated forest pest management in the South.** U.S. Forest Service, General Technical Report SE-34. 77 pp.

"A synopsis of the technology transfer activities of the Forest Service's Integrated Pest Management Research, Development and Applications Program for Bark Beetles of Southern Pines, and the Southern Region, 1980-85, with emphasis on State demonstration projects and user involvment." Selected papers are indexed.

824 Murphey, W.K., 1986. **Extramural funding opportunities in wood science and technology.** Wood and Fiber Science 18:351-355.

Discusses sources of research funds and funding patterns in utilization, marketing, and harvesting research for 1983.

825 Canadian Society of Environmental Biologists, Alberta Chapter, 1985. **Economy & Ecology: The economics of environmental protection.** Edmonton, Canadian Society of Environmental Biologists, Alberta Chapter. 224 pp.

Proceedings of a symposium held at the University of Alberta, Feb. 19-20, 1985. Papers include "Market and extra-market values," "Economic valuation of the natural environment," "The extravagance of wilderness...," "The economics of environmental management," "Benefit-cost analysis in environmental decision making," and "Economic values in integrated resource policies and plans."

826 Cowling, E.B., 1983. **Acid rain and atmospheric deposition: Causes, consequences, and research needs.** Proceedings of the Technical Association of the Pulp and Paper Industry 1983 Annual Meeting. pp. 293-299.

827 Dudley, N., 1985. **The death of trees.** London, Pluto Press. 133 pp.

"This book is about forests and politics. Specifically, it is about how forests throughout the world are being destroyed at an accelerating rate and what social and political factors are combining to cause this destruction." (preface)

828 Eagles, P.F.J., 1984. **The planning and management of environmentally sensitive areas.** New York: Longman. 160 pp.

829 Hamilton, A.C., 1984. **Deforestation in Uganda.** Nairobi, Oxford University Press. 92 pp. + index.

830 Jaaskelainen, H.L., comp., 1985. **Environment 2000 program: Ontario Region, forestry sector. Final Report.** Great Lakes Forestry Centre, Miscellaneous Report no. 32. 16 pp.

Other contributors were: D.W.J. McGowan, R.M. Greet, G.E. Sykes, and W.B. Wiltshire. "This report describes the Environment 2000 conservation program within the context of the Ontario forestry sector." The program had as its objectives both preservation of the natural environment and the creation of jobs, particularly for youth.

831 Mandelbaum, P., ed., 1985. **Acid rain; economic assessment.** New York, Plenum Press. Environmental Science Research vol. 33. 287 pp.

Contains a small amount of information on acid rain's effects on forests.

832 Public Affairs and Forest Management: Pesticides in For. Sem., Toronto, 1985. **Proceedings.** Montreal, Canadian Pulp and Paper Association. 71 pp.

In English and French. Articles not indexed.

833 Schutt, P., 1986. **[Considerations on symptoms of "Waldsterben."]** Forstarchiv 57:8-11.

In German. English summary. The present research activities on the Waldsterben-Syndrome are not based on a precise and broad enough knowledge of symptoms. A more thorough attention to Waldsterben - symptoms is recommended before new hypotheses are brought into discussion. (WK, WK)

834 Simula, M., 1985. **Forestry and development--a global viewpoint.** Silva Fennica 19:339-354.

"The area of world forests is gradually declining because of various human activities, such as shifting cultivation, uncontrolled logging and industrial pollution. Continuation of the current trends would have detrimental ecological, economic and social effects on the global scale." (p. 339)

835 Temu, A.B. and Weaver, G.H., 1986. **Forestry, domestic energy and environment in Tanzania.** Resource Management and Optimization 3:319-325.

"Tanzania's energy development program should focus on the nation's hydropower potential. If urban residents were to shift from charcoal to electricicty for domestic energy needs, the net savings in charcoal requirements would be the equivalent of not harvesting 100,000hectares (ha) of natural woodlands annually." (p. 319)

836 U.S. General Accounting Office, 1985. **Acid rain: Federal research into effects on waters and forests.** U.S. General Accounting Office, GAO/RCED-86-7. 53 pp.

A discussion of the status and future direction of the National Acid Precipitation Assessment Program's research to determine acid deposition's effects on lakes, streams, and forests. The report also provides information on the funding supporting the national program's research effort.

837 World Resources Institute, 1985. **Tropical forests: A call for action.** New York, World Resources Institute. 3 parts (49, 55, 22 pp.)

Report of an international task force convened by the World Resources Institute, the World Bank, and the United Nations Development Programme. Part 1: The plan; Part II: Case studies; Part 3: Country investment profiles. This report attempts to "raise political awareness of the action needed to combat tropical deforestation."

GENERAL

838 Barron, D.E., Smyth, J.H., Campbell, K.L., and Martel, J.-P., 1986. **Forest management expenditures in Canada, 1977-1983.** Great Lakes Forestry Research Centre Joint Report no. 9. 85 pp.
A joint report of the Canadian Pulp and Paper Association and the Great Lakes Forestry Centre. "Expenditures in forest management activities are reported by governments and the forest industry for the years 1977, 1979, 1981 and 1983." (Abstract) (JHS)

839 Cortes, E.V., 1984. **Management of natural forests.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 205-209.

840 Drushka, K., 1985. **Stumped: The forest industry in transition.** Vancouver, Douglas & McIntyre. 280 pp.
This book concerns the question, "What is the proper use of publicly owned forest land?" (p. 8) The author "examines the history, theory, economics and institutional structure of contemporary forest management policies." (cover)

841 Graniczny, S., 1985. **[Methods of forest management and classification and nomenclature of forms of felling in Poland after 1945.]** Sylwan 129(6):49-56.
Traces the changes in forest management methods in Poland from 1945-1973.

842 Griess, O., 1984. **[The management and planning of a forest estate.]** In: IUFRO. Papers from a symposium, Subject Group S4.04...1983. pp. 35-50.
In German, with English and Croatian summaries.

843 International Union of Forestry Research Organizations, 1984. **Papers from symposium Subject Group S4.04 Forest Management and Managerial Economics, Plitvicka Jezera, May 16-20, 1983.** Radovi, Sumarski Institut, Jastrebarsko, Yugoslavia, Izvanredno Izdanje I. 250 pp.
Papers are in English, German, or Croatian. Selected papers are indexed in this issue.

844 Jobstl, H., 1984. **[On the necessity of incorporating monetary values or value ratios into forest management planning shown at the examples of cost classes for logging and peeling damages of Norway spruce.]** In: IUFRO. Papers from a symposium, Subject Group S4.04...1983. pp. 100-118.
In German, with summaries in Eng., German, and Cr.

845 Klepac, D., 1984. **[Development of forest management on the High Karst.]** In: IUFRO. Papers from a symposium, Subject Group S4.04...1983. pp. 17-21.
In German, English, and Croatian.

846 Kongsangchai, J., 1984. **Management of mangrove forests.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 249-256.

847 McDougall, F.W., 1984. **Forest management in Canada today.** Forestry Chronicle 60:175-176.

848 Miegroet, M. Van, 1984. **Concepts of forest stability and forest management.** Silva Gandavensis 50:39-64.

849 Miegroet, M. Van, 1984. **Reflections on the position of the forest and forestry in Europe.** Silva Gandavensis 50:101-111.

850 Murphy, G., 1985. **The management of Australian forests--a personal view.** Irish Forestry 42:67-75.
"The management of Australian forests is discussed in relation to the biological and socio-economic factors affecting it." (p. 67)

851 Priesol, A., 1984. **[Functional types of forest within the forest management in Czechoslovakia.]** In: IUFRO. Paper from a symposium, Subject Group S4.04...1983. pp. 57-71.
In German, with Eng. and Cr. summaries.

852 Ruprich, J. and Pokorny, P., 1984. **[Differential analysis of the results of management.]** Lesnictvi 30:871-880.
In Czech with English summary. "Methods of the analysis of the results of management were supplemented by the method of proportional indicators and by the method of dynamic indicators." (JR)

853 Ruprich, J., 1985. **[Evaluation of the effectiveness of management organizational structure in the forestry.]** Lesnictvi 31:561-570.
In Czech with English summary. "Direct evaluation of the effectiveness of management organizational structure is difficult to be made because there is available no complex indicator which could be used. However, a set of indicators can be used to compare the management organizational structure in the forestry." (JR)

854 Winget, C.H., 1984. **The federal role in forest management: The continuing quandary.** Forestry Chronicle 60:177-179.
The federal role in Canadian forest management.

855 Bartlett, A.G., 1983. **Multiple-use hardwood forest management in the Otway Ranges.** Australian Forestry 46:278-286.
The Otways Forest District is located in the south west of Victoria, Australia.

856 Cory, D.C., and Martin, W.E., 1985. **Valuing wildlife for efficient multiple use: Elk versus cattle.** Western Journal of Agricultural Economics 10:282-293.
A restructuring of current theoretical and empirical research efforts is required if valuation estimates are to be of use in multiple-use policy making, a restructuring that focuses on the impact of recreation quality on recreation benefits and efficient wildlife herd sizes. The argument is illustrated for cattle production and elk management on public lands. (p. 282)

857 Kronrad, G.D., 1986. **Forest management can improve the beauty of your woodland.** National Woodlands 9(3):5-7.
Management for amenity values and timber production can be profitable, both financially and aesthetically.

858 Leary, R.A., 1985. **Interaction theory in forest ecology and management.** Dordrecht, Martinus Nijhoff/W. Junk. 219 pp.
The author believes that "forestry will not survive as a viable profession without philosophy, including ethics," and that "forestry has become too associated with the economic criterion for action, or commodity view of the world."

859 Morandi, L., 1985. **Environmental use: A reappraisal of balance.** Denver, National Conference of State Legislatures. 122 pp.
Includes a section on "maximizing forest values."

860 Saastamoinen, O., 1985. **An economic comparison between timber production and reindeer husbandry at the regional level.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 72-77.
"In the northern boreal zone of Finland reindeer husbandry and timber production are utilizing largely the same land resources...." (p. 72)

861 Smykala, J., 1984. **[Multiple-use forest management in Poland.]** In: IUFRO. Papers from a symposium, Subject Group S4.04...1983. pp. 72-85.
In German.

862 Walker, B.B., 1984. **Management of non-wood values in state forests: Should the user pay? 4. Funding non-wood values in Tasmanian state forests.** Australian Forestry 47:164-171.
"The paper adopts a framework for costing forest values which assumes multiple use of forests intensifying over time in a sequence of stages."

863 Baden, J. and Lueck, D., 1986. **Bringing private management to the public lands: Environment and economic advantages.** In: Kamieniecki, S. et al., eds. Controversies in environmental policy. Albany, State University of New York Press. pp. 39-64.
Begins with a review of the history of the federal government's land policies, and argues in favor of relinquishing governmental management, if not ownership and control, of the federal lands." (p. 40)

864 Clawson, M., 1985. **The future of public forests in the Pacific Northwest.** In: Oregon State University, College of Forestry, 1985 Starker Lectures. pp. 16-29.

865 Dennis, W.C. and Simmons, R.T., 1986. **From illusion to responsibility: Rethinking regulation of federal public lands.** In: Kamieniecki, S. et al., eds. Controversies in environmental policy. Albany: State University of New York Press. pp. 65-84.

866 McCurdy, H.E., 1986. **Environmental protection and the new federalism: The Sagebrush Rebellion and beyond.** In: Kamieniecki, S. et al., eds. Controversies in environmental policy. Albany, State University of New York Press. pp. 85-107.
This chapter reviews how well conservative reforms such as the Sagebrush Rebellion, the new federalism, and privatization of public lands meet political and environmental needs and suggests how they could be modified to create a "really new" federalism.

867 Rosenbaum, W.A., 1985. **Environmental politics and policy.** Washington, D.C., Congressional Quarterly.
Chapter 8 is entitled: "Our 700 million acres: The battle for the public lands.

PRIVATE OWNERSHIP

INDUSTRIAL

868 Cubbage, F., 1983. **Economics of forest tract size: Theory and literature.** U.S. Forest Service, General Technical Report SO-41. 21 pp.

"This report reviews worldwide literature and theoretical bases on economics of forest tract size and examines means of reducing the diseconomies of small size." (abstract) "Forestry literature documents that small tracts have higher forest management and harvesting costs than large tracts." (p. 18)

869 Sedjo, R.A., 1986. **Forest plantations of the tropics and Southern Hemisphere and their implications for the economics of temperate climate forestry.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 55-69.

"A broad conceptual framework for explaining many of the fundamental changes that are occurring in the nature of the world's forest resource is developed. Within this context, the role of the industrial forest plantation is analysed." (p. 55)

870 Baird, A.W., Doolittle, L., and Burroughs, R.G., 1986. **Harvesting decisions of nonindustrial private forest owners in Mississippi.** Mississippi State University Department of Sociology and Anthropology. Sociology Research Report Series 86-2. 6 pp.

871 Birdsey, R.A. and Pitcher, J.A., 1986. **Management options for poorly stocked stands in the south central United States.** Southern Journal of Applied Forestry 10:73-77.
Three fourths of the poorly stocked timberland in the south central U.S. is in nonindustrial private forest ownership. Few NIPF owners are willing or can afford to pay the high cost of site preparation and planting.

872 Fecso, R.S., Kaiser, H.F., Royer, J.P., and Weidenhamer, M., 1982. **Management practices and reforestation decisions for harvested southern pinelands.** U.S. Statistical Reporting Service, SRS Staff Report no. AGES821230. 74 pp.
"A southwide study was conducted in 1981 which examines the harvesting and reforestation decisions of the South's nonindustrial, private forest landowners."

873 Greene, J.L. and Blatner, K.A., 1986. **Identifying woodland owner characteristics associated with timber management.** Forest Science 32:135-146.
"This article describes use of...discriminant analysis to analyze data from a woodland owner study." Data for the study were drawn from a questionnaire mailed to 3,200 randomly selected woodland owners in Arkansas.

874 Haney, H.L., Jr., 1985. **The private nonindustrial investor.** In: Appalachian Society of American Foresters. This business of forestry. pp. 8-20.

875 Haymond, J.L. and Zahner, R., 1985. **Forestry acre by acre: Improving low-quality oak-pine woodlands.** Clemson University Cooperative Extension Service Bulletin 131. 37 pp.
Published in cooperation with the Southern Forest Institute.

876 Krestyn, J., 1986. **[The development of electronic data processing at the forest farm level in the forestry of the Czech Socialist Republic.]** Lesnictvi 32:127-140.
In Czech, with Russian, English, and German summaries. (JR)

877 Lukehurst, C.T., 1986. **The management and conservation of farm woodland.** Quarterly Journal of Forestry 80:105-114.

878 Montgomery, A.A., 1983. **The expanding timber demand and landowner attitudes toward forestry investment.** Georgia Forest Research Paper no. 43. 15 pp.

"A major purpose of this study is to ascertain how well the nonindustrial landowner understands and appreciates...opportunities to gain from investments in improved forest management." Among these opportunities are the Reforestation Incentives Act and the Forestry Incentives Program.

879 Repo, S., 1985. **Nonindustrial private forest owner's level of knowledge concerning forestry, and its effect on their timber sales behaviour.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 172-177.
Subtitled: "Preliminary results from two forestry board districts in Finland, and the outlines of a new research project."

880 Towler, M.N., 1986. **Landscape conservation in Norfolk, II. Management of small woods in Norfolk.** Arboricultural Journal 10:23-31.

881 Blackman, T., 1986. **Profit-sharing plan benefits hourly, managerial workers.** Forest Industries 113(6):26-27.

882 Dargavel, J., Johnston, T., and Boutland, A., 1985. **Characteristics of the Australian forestry and logging workforces.** Australian Forestry 48:235-241.

883 Krasnoshchekova, G.S., 1985. **Adoption of the team form of labor organization and incentives at the harvesting enterprises.** Hydrolysis and Wood Chemistry USSR 1985 no. 5. pp. 31-33.

A discussion of the team form of work organization and incentive at silvichemical plants in the USSR.

884 Maleta, B.P. and Sood, K.G., 1984. **Physical work-load in tree felling and cross cutting operations. (A case study in tropical rain forests of the West Coast)** Indian Forester 110:478-489.

885 Munro, J., 1985. **The future of organized labor in the forest products industry.** In: Pacific Logging Congress. World markets, methods & friends. Loggers Handbook 45:53-55.

886 Schmidt, A.G., 1986. **A note on the optimal allocation of labor in the forest industry.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 177-184.

"In this paper the problem of the optimal allocation of labor resources in the forest industry among works on current production output and the construction of new forest industrial complexes is investigated." (p. 177)

887 Barrager, S.M. and Cohan, D., 1986. **Value of information in forest fire management decisions.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 403-416.

"A methodology for determining the economic value of improved information on fuels and forest fire behavior is described." (p. 403)

888 Branham, S.J. and Thatcher, R.C., editors, 1985. **Integrated Pest Management Research Symposium, Asheville, N.C., 1985: Proceedings.** U.S. Forest Service, General Technical Report SO-56. 383 pp.

889 Brown, B.G. and Murphy, A.H., 1985. **Quantification of uncertainty in operational and experimental fire-danger forecasts.** Oregon State University, Dept. of Atmospheric Sciences, Statistics and Climatic Impacts Laboratory, SCIL Report 85-1. 220 pp.

This report is the third in a series of reports prepared under a project sponsored by the Rocky Mountain Forest and Range Experiment Station. The results of the study "indicate that the forecasts of temperature, relative humidity, maximum temperature, and minimum relative humidity are fairly accurate, whereas the forecasts of wind speed are relatively inaccurate."

890 Gabriel, H.W. and Tande, G.F., 1983. **A regional approach to fire history in Alaska.** U.S. Bureau of Land Management, Alaska Technical Report 9. 34 pp.

"The authors of this report have organized the available forest fire statistical data according to recognized geographical regions of Alaska to demonstrate that fire data can be stratified in meaningful ways to aid in management decisions." (abstract)

891 Hart, D., 1983. **Economic analysis of the Fomes annosus Hazard Tree Removal Program in Yosemite National Park.** U.S. Forest Service, Pacific Southwest Region, State and Private Forestry, Forest Pest Management, Report no. 83-10. 25 pp.

"This analysis is based on two types of economic evaluation: The present net value (PNV) and the benefit/cost ratio." (abstract)

892 Knapp, G., 1982. **Approaches for analyzing the effects of wildfires on resource values in Alaska.** University of Alaska, Institute of Social and Economic Research. 96 pp. + app.

Prepared for Alaska Dept. of Natural Resources. The author was contracted by the department to 'review and evaluate methods to measure in quantitative economic terms the resource values typically lost and gained as a result of

wildfires in Alaska.' (p. 1)

893 Perkins, C.J., 1982. **Need, philosophy, and types of prescribed burning.** Auburn University, Alabama Cooperative Extension Service, Circular ANR-375. [4] pp.
Paper presented to the Practical Prescribed Burning Workshop, Montgomery, Alabama, Oct. 27, 1982.

894 Plochmann, R. and Hieke, C., 1986. **[Damage-occurrence in the forests of Bavaria: A compilation of forestry literature since the 18th century.]** Forstliche Forschungsberichte Munchen no. 71. 151 pp.
Covers insect damage, storm and wind damage, damage from fire, viruses, pathogens, etc. Does not cover air pollution damage. In German.

895 Salazar, L.A. and Bradshaw, L.S., 1986. **Display and interpretation of fire behavior probabilities for long-term planning.** Environmental Management 10:393-402.

896 U.S. Forest Service, 1986. **Fire management activity review--1985 fire season.** U.S. Forest Service, FSS100-D. 26 pp. + 102 p. appendix.

897 Veirs, S.D., Jr., editor, 1985. **Coastal redwood fire ecology and prescribed fire management: Proceedings of a workshop, Arcata, Calif., 1984.** Arcata, Calif., Redwood National Park, Cooperative Park Studies Unit. 125 pp.

898 Wetherill, G.R., 1982. **Forest fire prevention programs and their evaluation in U.S. Forest Service Region 8.** U.S. Forest Service, Research Note SO-282. 5 pp.
"A telephone survey of all national forest ranger districts in Region 8 obtained data describing the status of forest fire prevention program evaluation."

899 White, W.B. and Hunter, D.O., 1984. **The Integrated Pest Impact Assessment System as a framework for a comprehensive forest management information system.** In: Western International Forest Disease Work Conference, 1983. Proceedings 31:60-68.
Describes a new computer-assisted forest management information system.

900 Wood, R.E., 1985. **Pest management and the national forest planning process: A case history.** In: Western International Forest Disease Work Conference, 1985. Proceedings 33:76-78.
Describes how pest management considerations were incorporated into the planning process on the Lincoln National Forest in New Mexico.

901 Absher, J.D., 1985. **Public recreation area management: Factors contributing to support for policies.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 135-144.

902 Anderson, C.L., 1986. **Attractiveness and identification measures for tourist sites in northeastern Minnesota.** University of Minnesota, Duluth. Bureau of Business and Economic Research, Working Paper no. 86-19. 14 pp.

903 Bevins, M.I., 1985. **Property taxation in Vermont's second home communities, 1974-1980.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:269-278.

"Residential property taxes were found to be consistently lower in those Vermont communities with a significant number of second homes." (p. 269)

904 Boyle, K.J., and Bishop, R.C., 1984. **Lower Wisconsin River recreation: Economic impacts and scenic values.** University of Wisconsin, Dept. of Agicultural Economics Staff Paper no. 216. 16 pp.

905 Brown, C., 1982. **Resource planning for recreation and tourism....** In: Essays in national resource planning. University of Birmingham, Centre for Urban and Regional Studies, Occasional Paper no. 5 (new series). pp. 1-17.

Subtitle of the paper is: The implications of management objectives, constraints and techniques upon demand for and the supply of resources for recreation and tourism, with particular reference to heritage resources.

906 Brown, T.L. and Connelly, N.A., 1985. **State parks and residential property values in New York.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:245-254.

"The effect of state parks on surrounding residential property taxes was examined for six communities in New York." (p. 245)

907 Chilman, K.C., 1985. **Monitoring trends in recreation quality with a recreation resource inventory system.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II 2:327-336.

908 Christensen, J.E., 1985. **Different answers to different questions: Experimental designs in recreation research.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 35-47.

"Many questions of interest to recreation managers cannot be answered with survey research alone." (p. 35)

909 Clawson, M., 1985. **Trends in use of public recreation areas.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:1-12.

910 Cockrell, D. and Wellman, J.D., 1985. **Against the running tide: Democracy and outdoor recreation user fees.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:193-205.

"Several arguments are presented which favor public provision of outdoor recreation opportunities at zero or nominal cost to the user." (p. 193)

911 Cockrell, D. and Wellman, J.D., 1985. **Democracy and leisure: Reflections on pay-as-you-go outdoor recreation.** Journal of Park and Recreation Administration 3(4):1-10.

The authors conclude that user fees "seem justifiable, expeditious, and inevitable." (p. 9)

912 Cook, C.M., Reiling, S.D., and Halteman, W.A., 1985. **The use of a multivariate technique in the development of a measure of tourism.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:230-244.

913 Cordell, H.K. et al., 1985. **Trends in recreational access to private rural lands.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:164-184.

Co-authors are J.H. Gramann, D.E. Albrecht, S. Withrow, and R.W. McLellan. "This paper traces the changes in rural land ownership and the associated recreational access trends." (p. 164)

914 Cordell, H.K., Fesenmaier, D.R., Lieber, S.R., and Hartmann, L.A., 1985. **Advancements in methodology for projecting future recreation participation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:89-109.

915 Cory, D.C., 1985. **Income-time endowments, distribution equity, and the valuation of natural environments.** Western Journal of Agricultural Economics 10:183-186.

916 Delforce, R.J., Sinden, J.A., and Young, M.D., 1986. **Policy preferences and social economic values to resolve pastoralism-tourism conflicts.** Landscape Planning 12:387-401.

"Ths paper reports the collection and use of ordinal social-preference data to evaluate alternative allocations of use-rights and their combination with economic data to aid the resolution of conflicts of interest between pastoral and tourist users of the Flinders Ranges of South Australia." (p. 387)

917 Dick, R.E. and Hendee, J.C., 1986. **Human responses to**

encounters with wildlife in urban parks. Leisure Sciences 8:63-77.

Park visitors were observed in parks in Seattle, Washington, and Denver. "Fifty-five percent of the park visitors studies made an observable, spontaneous response to the wildlife present." (p. 63)

918 Driver, B.L., Bossi, J.E., and Cordell, H.K., 1985. **Trends in user fees at federal outdoor recreation areas.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:222-242.

"This paper considers four trends related to user fees at federal recreation areas: (1) trends in rationale for fees, (2) trends in federal agency attempts to obtain broader fee-levying authorities, (3) trends in user fees under existing federal authorities, and (4) possible trends under broader authorities." (p. 222)

919 Dwyer, J.F., Schroeder, H.W., and Buck, R.L., 1985. **Patterns of use in an urban forest recreation area.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:81-89.

920 Echelberger, H.E., 1985. **Nascent trends in the private campground industry.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:185-192.

921 Elsner, G.H., 1985. **Recreation use trends--a Forest Service perspective.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:143-147.

"Recreation use on the National Forests has grown steadily over the last sixty years." (p. 143)

922 English, D.B.K. and Cordell, H.K., 1985. **A cohort-centric analysis of outdoor recreation participation changes.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 93-110.

923 Ewert, A., 1985. **Emerging trends in outdoor adventure recreation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:155-165.

924 Ewert, A., 1985. **Identifying fears in the outdoor environment: A preliminary analysis.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 67-76.

"The purpose of this study was to determine what fears individuals had after participation in an outdoor adventure program...." (p. 67)

925 Fesenmaier, D.R. and Roehl, W.S., 1986. **Locational analysis in campground development decisions.** Journal of Travel Research 24(3):18-22.

"This study illustrates the use of locational analysis in evaluating the potential for campground development in Texas, and reveals that successful commercial campground operators in Texas have tended to locate near large bodies of water, population centers, and major thoroughfares."

926 Hartono, S., 1984. **Recreation.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 304-307.

927 Hastings, B.C. and Hammitt, W.E., 1985. **Public preferences and perceptions toward wildlife viewing.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 49-56.

The purpose of this study was to determine the role that wildlife viewing plays in visitation of an area of Great Smoky Mountains National Park and to identify aspects of park management which could improve interpretation of wildlife. (p. 49)

928 Hecock, R.D., and Lime, D.W., 1984. **Toward more flexible leisure planning and management practice: The case of river recreation in the United States.** In: Long, J. and Hecock, R., eds. Leisure, tourism and social change. pp. 177-187.

"The purposes of this paper are: a) to describe the dynamic nature of preferences for leisure activities; b) to offer an example of the character and consequences of rapid change in one resource-oriented leisure activity, and; c) to discuss the implications of such change in the context of leisure planning and management strategies." (p. 177)

929 Hornback, K.E., 1985. **Social trends and leisure behavior.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:37-48.

930 Hronek, B.B., 1985. **Legal liability trends in outdoor recreation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:148-154.

"The number of tort claims against providers of outdoor recreation has increased significantly in the past decade." (p. 148)

931 Humphrey, D.W., 1986. **Outdoor recreation revisited.** American Land Forum 6(2):11-13.

Short discussion on what is to be the work of the new Presidential Commission on Outdoor Recreation.

932 Illinois Department of Conservation, 1985. **Outdoor recreation in Illinois: 1984-85 action program.** Illinois Dept. of Conservation, Office of Planning and Development. 46 pp.

Identifies five high priority outdoor recreation and conservation issues (among them, local outdoor recreation opportunity and economic benefits of recreation), and the

actions agencies and organizations are taking to address these issues.

933 Kelly, J.R., 1985. **Benefits of recreation: Past, present, and future.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:49-63.

934 Klar, L.R., Jr., Keegan, W., and Warnick, R., 1985. **Economic and non-economic quality of life indicators in rural tourist and non-tourist communities.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:292-298.
Reports on a study done in Massachusetts.

935 Knopp, T.B. and Blank, U., 1983. **The North Shore experience.** University of Minnesota Sea Grant Program, Research Report no. 8. 81 pp. + app.
A study of tourism on the North Shore of Lake Superior.

936 Long, J., and Hecock, R., editors, 1984. **Leisure, tourism and social change: Papers selected from a conference held at the University of Edinburgh in January, 1983.** Edinburgh, Centre for Leisure Research, Dunfermline College of Physical Education. 223 pp.
Sponsored by International Geographical Union Commission on the Geography of Recreation and Leisure and the Leisure Studies Association.

937 Lucas, R.C. and Stankey, G.H., 1985. **Role of research in applying the Limits of Acceptable Change system.** In: Watson, A.E., ed. proc. Southeastern Recreation Research Conference, 1985. pp. 1-15.
"The LAC process is reviewed and research needs related to each of the nine steps are discussed." (p. 1)

938 Lucas, R.C., 1985. **Recreation trends and management of the Bob Marshall Wilderness Complex.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:309-316.
A study of trends over 12 years in the Bob Marshall Wilderness complex in Montana. Trends include: slowing growth in use, a shift in predominant travel methods from horses to hiking, and growing complaints about trail conditions and user conflicts.

939 Lucy, J., Breen, A., and Rigby, D., 1985. **Urban waterfronts: Positive directions, new problems.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:66-80.

940 Manfredonia, D., Rossi, D., and Koch, A.R., 1985. **Tourist attractions and the values of surrounding residential property.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:255-268.

"The impact that the establishment of a theme park had on the sales of closely surrounding residential property was examined." (p. 255)

941 Marek, J., Bennett, R., and Kjode, A., 1984. **Outdoor leisure pursuits: Opportunities and constraints.** In: Long, J. and Hecock, R., eds. Leisure, tourism and social change. pp. 205-218.
Norwegian study which "examines constraints pertaining to the least active groups and discusses what might be done to alleviate them." (p. 205)

942 McLellan, G., 1986. **The future of outdoor recreation: What the trends tell us.** Parks and Recreation 21(5):44-48, 63.

943 Mengak, K.K., Dottavio, F.D., and O'Leary, J.T., 1985. **Use of Importance-Performance Analysis to evaluate a visitor center.** In: Watson, A.E. Proc. Southeastern Recreation Research Conference, 1985. pp. 111-121.
"The facility used for this study was the Sugarlands Visitor Center in the Great Smoky Mountains National Park."

944 More, T.A., 1985. **Evaluating and interpreting use data in urban park settings.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:103-108.

945 Murphy, P.E., 1986. **Tourism, a community approach.** New York, Methuen. 200 pp.

946 O'Leary, J.T., 1985. **Social trends in outdoor recreation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:24-36.
"Changes in the structure of the population, constituency support and the political process, technology, experience erosion, depreciative behavior, activity patterns, and displacement and succession of users are all seen as major impacts on the recreation environment of the future." (p. 24)

947 Peterson, G.L. and Brown, T.C., 1985. **The economic benefits of recreation: Common disagreements and informed replies.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 17-33.

948 Peterson, G.L., Loomis, J.B., and Sorg, C.F., 1985. **Trends in the value of outdoor recreation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:243-256.
"The purpose of this paper is to provide information about trends in the economic value of recreation." (p. 243)

949 Propst, D.B. et al., 1985. **Trends in consumer expenditures and public investments for outdoor recreation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends

Symposium II. 1:201-221.

Co-authors are: H.K Cordell, D.H. Holecek, D.B.K. English, and S.R. Chen. This paper focuses on outdoor recreation as a subset of the leisure industry and emphasizes "trends in consumer expenditures and in various indicators of the economic importance of public sector outdoor recreation." (p. 202)

950 Reiling, S.D., Echelberger, H.E., and Cook, C.M., 1985. **Trends in the costs of providing public outdoor recreational opportunities.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:257-270.

951 Ross, D.T., 1986. **Preserving public recreational opportunities: L & WCF and UPARR requirements.** Parks and Recreation 21(6):38-41.

The Land and Water Conservation Fund and the Urban Park and Recreation Recovery programs have received funding cuts under the Reagan administration.

952 Sale, E.P., Cordell, H.K., and Howe, C.Z., 1985. **Evaluation and synthesis of research on outdoor recreation users for national planning application.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 85-92.

953 Saunders, P.R., 1985. **Trends in dispersed recreation on the wildland resource.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:299-308.

This paper reviews "the demand trends in dispersed recreation with emphasis on federal lands," and examines "the effect the demand trends will have on the dispersed recreation resource." (p. 299)

954 Seymour, W.R., 1985. **Cooperative approach to outdoor recreation.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:193-200.

955 Shafer, E.L. and Christiansen, M.L., 1985. **Future images and implications.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:288-298.

956 Siehl, G.H., 1985. **Trends in federal outdoor recreation policy.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:280-287.

957 Spotts, D.M. and Stynes, D.J., 1985. **Measuring the public's familiarity with recreation areas.** Journal of Leisure Research 17:253-265.

958 Tyrrell, T.J., 1985. **Monitoring recreation trends using secondary data.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:110-126.

"This paper explores the problems of using secondary data to estimate points on a recreation participation trend line and suggests some statistical solutions to these problems." (p. 111)

959 U.S. Forest Service, Southwestern Region, 1986. **Recreation opportunity guide: Instructions.** U.S. Forest Service, Southwestern Region. 171 pp.
"The Recreation opportunity guide was developed in response to the need for a coordinated system of information about recreation opportunites available on National Forest land." (p.5) Publication is undated; received 1986.

960 VanDoren, C.S., 1985. **Social trends and social indicators: The private sector.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:13-23.
"An often unrecognized part of leisure in the United States is the travel/tourism industry. The growth of the travel industry necessitates that it be included as a significant part of any analysis of outdoor recreation and leisure activities." (p. 13)

961 VanDoren, C.S., Brown, G.P., and Fesenmaier, D.R., 1985. **Travel in the U.S.: 1972-1983; trends and economic impact.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:139-154.

962 VanHorne, M.J., Szwak, L.B., and Randall, S.A., 1985. **Outdoor recreation activity trends--insights from the 1982-83 Nationwide Recreation Survey.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:109-130.

963 Wallace, J.P., 1985. **Recreation management in a region context.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:206-213.
"An analysis of recreational resources within a region can prevent an over abundance of some types of recreational opportunities and a shortage of others. Such an analysis can prevent duplication of effort between public and private recreational suppliers...." (p. 206)

964 Wallace, S.J., O'Leary, J.T., Dottavio, F.D., and Peine, J., 1985. **Evaluation of management performance in campgrounds.** In: Watson, A.E., ed. Proc. Southeastern Recreation Research Conference, 1985. pp. 123-133.
Visitors to campgrounds in a national park and a state recreation area were surveyed during the summer of 1984.

965 Warnick, R.B. and Howard, D.R., 1985. **Market share analysis of selected public leisure services from 1979 to 1982.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 2:131-142.

"The extent to which the adult demand for selected recreational activities was met by local recreation and park agencies between 1979 and 1982 was examined in this paper." (p. 131)

966 Watson, A.E., editor, 1985. **Proceedings: Southeastern Recreation Research Conference, Myrtle Beach, SC, 1985.** Statesboro, Georgia, Georgia Southern College, Dept. of Recreation and Leisure Studies. 144 pp.

Available from: Publications Editor, Southeastern Forest Experiment Station, 200 Weaver Blvd., Asheville, NC 28804. Selected papers from the conference have been indexed in this issue.

967 West, P.C., 1985. **Predicting the direction of participation rate trends with the status group dynamics approach to recreation demand.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II 2:362-370.

968 Wood, J.D., Jr., editor, 1985. **Proceedings 1985 National Outdoor Recreation Trends Symposium II.** Atlanta, GA, U.S. National Park Service, Southeast Regional Office. 2 vols. 304, 381 pp.

Vol. I contains papers on recreation activity and tourism trends, public and private sector recreation trends, economic trends, trend measurement methodologies, and future policy implications. Vol. II includes papers on recreation trends in coastal, urban, and wilderness areas, marine recreation, economic impacts of tourism on rural development in the northeast, etc. Selected papers are indexed.

969 Cestar, D., 1984. **[The Plitvice Lakes National Park forest management.]** In: IUFRO. Papers from a symposium, Subject Group S4.04...1983. pp. 22-34.
In German, with English and Croatian summaries.

970 Dottavio, F.D., Becker, R.H., and MacKintosh, B., 1985. **A strategic approach to resource management planning in the National Park Service.** In: Wood, J.D., Jr., ed. Proc. 1985 National Outdoor Recreation Trends Symposium II. 1:271-279.

971 Echelberger, H.E. and Plumley, H.J., 1986. **Anatomy of backcountry management costs.** U.S. Forest Service, Research Paper NE-575. 8 pp.
"Operation and management costs for several dispersed overnight site locations and backcountry trails in the White Mountain National Forest were studied."

972 Elfring, C., 1986. **U.S. parks at a crossroads.** Bioscience 36:301-304.
"The U.S. National Park system...faces serious difficulties today." (p. 301)

973 Fisher, A.C. and Krutilla, J.V., 1983. **The economic theory of nature preservation.** University of California, Giannini Foundation of Agricultural Economics, Working Paper no. 288. 42 pp.

974 Frome, M., 1982. **Battle for the wilderness: Our forever conflict?** University of Idaho Wilderness Research Center, Wilderness Resource Distinguished Lectureship no. 6. 18 pp.

975 Karpowicz, Z., 1982. **Conflict solving in national park management plans: Examples from Poland.** In: Essays in national resource planning. University of Birmingham, Centre for Urban and Regional Studies, Occasional Paper no. 5 (new series). pp. 37-57.

976 Kirby, K.J. and Heap, J.R., 1984. **Forestry and nature conservation in Romania.** Quarterly Journal of Forestry 78:145-155.
"The history and organisation of nature conservation and forestry in Romania are briefly described and compared with British conditions." (p. 145)

977 Kirby, M.W., Hager, W.A., and Wong, P., 1986. **Simultaneous planning of wildland management and transportation alternatives.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 371-387.
The authors describe a mathematical programming model which "deals with the interactions between natural resource

investments and transportation network investments as a means of generating alternative land management plans." (p. 371)

978 Maruyama, H., 1986. **[Information and introducers on the National Park in its dawning period in Japan.]** Bulletin of the Kyoto University Forests 57;268-282.
History of the national park idea in Japan. In Japanese with English summary.

979 Merriam, L.C., 1986. **The Boundary Waters Canoe Area Wilderness (BWCA) of Minnesota: Changes (1966-1986) Has the wilderness disappeared?** University of Minnesota Agricultural Experiment Station, Station Bulletin AD-SB-2926.

980 Mestrovic, S., 1984. **Nature conservation in Yugoslavia.** In: IUFRO. Papers from a symposium, Subject Group S4.04...1983. pp. 229-240.

981 Morgan, J.N., 1986. **The impact of travel costs on visits to U.S. national parks: Intermodal shifting among Grand Canyon visitors.** Journal of Travel Research 24(3):23-28.
"This paper has focused on two main questions. First, did the periods of energy crisis have an impact on National Park visits over and above the effects of rising transportation cost? Second, how have rising energy costs affected the mode of travel of park visitors?" (p. 28)

982 Navon, D. and Weintraub, A., 1986. **Operational model of supply for wildland enterprises.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 353-370.

983 Owen, O.S., 1985. **Natural resource conservation: An ecological approach.** 4th ed. New York, Macmillan. 657 pp.

984 Pavlik, R.C., 1986. **Cultural resources management and interpretation: Working together to preserve the past.** The Interpreter 17(1):22-23.

985 Underhill, A.H., Xaba, A.B., and Borkan, R.E., 1986. **The Wildernes Use Simulation Model applied to Colorado River boating in Grand Canyon National Park, USA.** Environmental Management 10:367-374.
One of the objectives of the study was to illustrate how the park staff might use the model to test various management alternatives.

986 Willis, C., 1985. **The extravagance of wilderness: Whose values, whose dollars and sense?** In: Canadian Society of Environmental Biologists, Alberta Chapter. Economy & Ecology: The economics of environmental protection. pp. 45-51.
Discusses whether or not we should put a monetary value on wilderness.

987 Albin-Smith, T.K. and Raguse, C.A., 1984. **Environmental effects of land use and intensive range management: A northern California example.** University of California, Davis, California Water Resources Center, Contribution no. 187. 35 pp.

"This paper presents criteria for assessing and mitigating environmental impacts of manipulating foothill rangeland to improve its capacity for livestock grazing." (p.iii)

988 Mitchell, J.E. and Joyce, L.A., 1986. **Use of a generalized linear model to evaluate range forage production estimates.** Environmental Management 10:403-411.

989 Radtke, H., Detering, S., and Brokken, R., 1985. **A comparison of economic impact estimates for changes in the federal grazing fee: Secondary vs. primary data I/O models.** Western Journal of Agricultural Economics 10:382-390.

"This paper compares estimates of local personal income impacts that could result from increases in the federal grazing fee, using secondary data input/output models (U.S. Forest Service IMPLAN) and five primary data input/output models. The results show that the impacts estimated by the IMPLAN models are usually higher than those estimated by primary data models." (p. 382)

990 U.S. Forest Service, 1986. **Grazing statistical summary FY 1985.** U.S. Forest Service, Range Management. 96 pp.

This report is a source of local, regional, and national information on range use.

991 Herberger, R.A., 1984. **Urban forestry in southeastern New York State, USA.** Arboricultural Journal 8:185-192.
Describes New York State's urban forestry program.

992 Holmes, J.J. and Davidson, J.A., 1984. **Integrated pest management for arborists: Implementation of a pilot program.** Journal of Arboriculture 10:65-70.
Among the several conclusions drawn from the study was that an IPM program for landscape plants is financially feasible as a commercial venture.

993 Moll, G., 1986. **Linking arborists, foresters, and citizens.** Journal of Arboriculture 12:69-72.
"Urban forestry helps to bring together many specialists that work with trees and challenges them to work together to answer questions that are common to many elements of the profession." (p. 69)

994 Presley, J.J., 1986. **Urban forestry--a state perspective.** Journal of Arboriculture 12:105-107.
Describes the urban forestry program of the Missouri Conservation Department.

995 Raupp, M.J. and Noland, R.M., 1984. **Implementing landscape plant management programs in institutional and residential settings.** Journal of Arboriculture 10:161-169.
Reports on integrated pest management programs for landscape plants at homesites and on the University of Maryland campus.

996 Smith, D.C. and Raupp, M.J., 1986. **Economic and environmental assessment of an integrated pest management program for community-owned landscape plants.** Journal of Economic Entomology 79:162-165.

997 Easter, K.W., Hufschmidt, M.M., and McCauley, D.S., 1985. **Integrated watershed management research for developing countries: Workshop report.** Honolulu, Environment and Policy Institute, East-West Center. 38 pp.

Based on papers presented and discussed at a workshop held at the East-West Center, Honolulu, 7-11 January 1985. Includes an introductory section followed by synopses of workshop papers.

998 Bromley, P.T., 1985. **Wildlife management and leasing.** In: Appalachian Society of American Foresters. This business of forestry. pp. 96-103.

The economics of wildlife management are far less well documented than for timber management because of the inherent difficulties in measuring distribution, abundance, use and valuation of wildlife resources. "In the future free public access and access by individual permits will decrease and leasing of hunting rights will increase." (p. 96)

999 Fedler, A.J. and Ditton, R.B., 1986. **A framework for understanding the consumptive orientation of recreational fisherman.** Environmental Management 10:221-227.

1000 Ffolliott, P.F., Sowls, L.K., and Tash, J.C., Tech. Coord., 1982. **The effects of land management practices on fish and wildlife in southwestern conifer forests: Proceedings of the workshop, Tuscon, 1982.** University of Arizona, School of Renewable Natural Resources, and Arizona Cooperative Wildlife Research and Fishery Units.

1001 Hoover, R.L. and Wills, D.L., eds., 1984. **Managing forested lands for wildlife.** Colorado Division of Wildlife. In cooperation with U.S. Forest Service, Rocky Mountain Region. 459 pp.

1002 Jameson, R., 1983. **The economic value of Oklahoma's fish and wildlife resources.** In: Wittwer, R.F., ed. Creating good wildlife habitat through forest management and conservation. pp. 37-41.

1003 Keith, J.E., and Lyon, K.S., 1985. **Valuing wildlife management: A Utah deer herd.** Western Journal of Agricultural Economics 10:216-222.

"Economists have been providing wildlife managers with recreational values which are not appropriate for most management decisions." (p. 216)

1004 Lipscomb, J.F., Capp, J.C., Mealey, S.P., and Sandfort, W.W., 1984. **Establishing wildlife goals and objectives.** In: Hoover, R.L. and Wills, D.L., eds. Managing forested lands for wildlife. pp. 305-321.

1005 Patton, D.R., 1982. **Wildlife habitat in land management planning: Some ideas and principles.** In: Ffolliott, P.F. et al. The effects of land management practices on fish and wildlife in southwestern conifer forests. pp. 33-38.

"This paper suggests ways to integrate wildlife habitat into resource management plans." (p. 33)

1006 Rodiek, J. and Barnes, D., 1982. **Coordinating land management practices for wildlife habitat values in Southwest coniferous forests.** In: Ffolliott, P.F. et al. The effects of land management practices on fish and wildlife in southwestern conifer forests. pp. 3-13.

The purposes of the paper are: (1) "To develop a base of understanding among resource specialists about wildlife habitats in managed forests; and (2) To develop coordinated management responses that may mitigate habitat losses created by timber management activities." (p. 3)

1007 Shaw, J.H., 1985. **Introduction to wildlife management.** New York, McGraw Hill. 316 pp.

Includes sections on values of wildlife, legal status of wildlife, funding for wildlife managment, behavior in wildlife management, management for harvest, wildlife for land use, etc.

1008 Wittwer, R.F., editor, 1983. **Creating good wildlife habitat through forest management and conservation: Proceedings of a Conference, Oklahoma City, 1983.** Oklahoma State University, Division of Agriculture. 103 pp.

Sponsored by Cooperative Extension Service, Division of Agriculture, Oklahoma State Univ., and Oklahoma Division, Ouachita Society of American Foresters. Selected papers are indexed.

1009 Aarnio, J., 1985. **[The profitability of timber growing on peatlands from the standpoint of the private forest owner.]** Folia Forestalia no. 630. 39 pp.

In Finnish with English summary. "The profitability of timber growing is studied on drained and undrained peatland by using net present values and internal rates of return. The separate profitability of the drainage investment is evaluated with the aid of contribution profit analysis by using net present values." (Abstract)

1010 Allen, H.L., 1985. **The value of fertilization as a silvicultural tool.** In: Appalachian Society of American Foresters. This business of forestry. pp. 77-86.

"Fertilization and other silvicultural treatments provide good investment and strategic opportunities to improve both the growth and value of loblolly pine stands on the majority of sites in the Southeast." (p. 77)

1011 Arnold, R. and Gleed, J.A., 1985. **Raising and managing radiata pine cuttings for production forests.** Australian Forestry 48:199-206.

"Despite the higher cost of the planting stock, plantations established with cuttings and managed on clearwood regimes accrue considerable cost savings in comparison to those established with seedlings." (p. 204)

1012 Axelsson, J. and Eriksson, L., 1986. **[Estimation of thinning--computerized simulation of biological and economic effects due to different thinning methods.]** Sveriges Lantbruksuniversitet, Institutionen for Skogsteknik, Rapport no. 166. 55 pp.

This report "presents a simulation model for comprehensive evaluation of different thinning regimes in young pine stands on the future yield." The economic effects of different thinning methods may be calculated by using the model." (p. 1)

1013 Blackwelder, R.H., 1985. **Economic evaluation and silviculture of thinning.** In: Appalachian Society of American Foresters. This business of forestry. pp. 87-95.

1014 Bludovsky, Z., 1985. **[Economic problems of the intensive development of Czechoslovak forestry.]** In: Ruprich, J. et al. Aktuelle probleme der Betriebsfuhrung. pp. 88-100.

In Czech with English summary. (JR)

1015 Busby, R.J.N., 1985. **A guide to financial analysis of tree growing.** Rome, Food and Agriculture Organization of the United Nations, FO:MISC/85/22. 104 pp.

"This publication has been prepared to provide a

framework for the analysis of the monetary costs and returns involved in growing forest tree crops, and of the expected resulting financial gain or loss. It is written for those unfamiliar with the principles and terminology of financial analysis...."

1016 Cejchan, S., 1986. **Die sowjetische Forst- und Holzwirtschaft soll mehr wachsen.** Holz-Zentralblatt 112:13-14.
In German. The recently published operational targets of the 12th Five-years-plan of the Soviet Union (1986-1990) reveals efforts of achieving more growth and higher wage in forestry and timber industry. (WK, WK)

1017 Domingo, I.L., 1984. **Industrial pulpwood plantations.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 485-504.

1018 Guldin, R.W., 1985. **Pine release in unevenly stocked stands on droughty soils may be uneconomical.** U.S. Forest Service, Research Paper SO-216. 5 pp.
Reports "results obtained when an unevenly stocked stand growing on a site having considerable variation was released." (p. 1) "In this study, stand and site factors were extremely important elements in evaluating the economic feasibility of release using aerially applied herbicide sprays." (p. 5)

1019 Guldin, R.W., 1983. **Site preparation costs in the southern coastal plain--an update.** U.S. Forest Service, Research Note SO-292. 3 pp.

1020 Holley, D.L., Jr., 1985. **Application of economic concepts to forest regeneration.** In: Appalachian Society of American Foresters. This business of forestry. pp. 69-76.
"Options for regenerating a pine stand are discussed. The economics of 'extensive' versus 'intensive' regeneration is analyzed.... A net present value analysis...leads to the conclusion that plantations are most profitable on average and better forest sites." (p. 69)

1021 Holten-Andersen, P., 1985. **General principles for optimal choice of species--with main emphasis on maximum net present value. Example: beech/Norway spruce.** Royal Veterinary and Agricultural University, Dept. of Forestry, Reports, Series 1: Lectures and Lecture Notes no. 4. 24 pp.
In Danish and English.

1022 Jabil, D.M., 1984. **The role of industrial forest plantations in future timber supply in the ASEAN region.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 449-457.

1023 Jen, I-an, 1984. **[An economic analysis on Ma bamboo (Dendrocalamus latiflorus) production in Taiwan.]** Taiwan

Forestry Research Institute Bulletin no. 414. 24 pp.
In Chinese with English summary.

1024 Kilkki, P., Lappi, J., and Siitonen, M., 1986. **Long-term timber production planning via utility maximisation.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 285-295.
"The value of the timber production policy is determined by the utility it provides for the decision maker." (p. 285) "The methods described in this paper constitute a part of the timber production planning system developed for the national forest inventory in Finland." (p. 295)

1025 Lockie, I.J. and Neilson, D.A., 1984. **Development of plantation forests for sawlog and pulpwood production in New Zealand.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 521-533.
"This paper describes how New Zealand has established a major forestry resource through a conscious policy of exotic forest establishment and reafforestation and some of the important management techniques which have evolved over the past 80 years." (p. 521)

1026 Lofgren, K.G., 1985. **On the social optimality of the normal forest.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 55-71.

1027 Lohmander, P., 1985. **On the optimal choice of species under the influence of price risk.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 24-41.
This paper deals with the question as to whether the uncertainty of future prices "has any implications for the optimal choice of species in forestry." (p. 25)

1028 Louisiana Office of Forestry, 1986. **1985 timber and pulpwood production in Louisiana.** Louisiana Department of Natural Resources, Office of Forestry. [4] pp.
Includes a table on "estimated stumpage value of severed timber."

1029 Lyons, G.J. and Vasievich, J.M., 1986. **Economic analysis of short-rotation forests for energy in Ireland.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 311-323.
"This paper investigates the economics of short-rotation forestry energy plantations on low-grade land in Ireland. A financial modelling approach is applied to examine production economics and identity optimum plantation decisions." (p. 311)

1030 Mauricio, F.P., 1984. **Immediate timber stand improvement for ASEAN forests: A proposal.** In: ASEAN Forestry Congress, 1st,

Manila, 1983. Proceedings. Book II. pp. 385-387.

1031 Meyer, P., 1985. **Mogliche volkswirtschaftliche Auswirkungen des Waldsterbens.** Schweizerische Zeitschrift fur Forstwesen 136:885-901.
In German, French summary. The author presents the importance of forestry for the Swiss national economy and the possible effects on it resulting from damages by the forest decline. (WK, WK)

1032 Nyyssonen, A. and Ojansuu, R., 1982. **[Assessment of timber assortments, value and value increment of tree stands.]** Acta Forestalia Fennica no. 179. 52 pp.
In Finnish with English summary. "The paper is the final report of a study on the estimation of value increment and inherent variables of Scots pine and Norway spruce stands."

1033 Raymond, O.H., 1985. **Unmarked pine thinnings--a commercial option.** Australian Forestry 48:193-198.
"Cost savings through not marking are estimated."

1034 Reed, D.D., Holmes, M.J., and Johnson, J.A., 1986. **A 22-year study of stand development and financial return in northern hardwoods.** Northern Journal of Applied Forestry 3:35-38.
"The stand development and financial returns from eight different cutting procedures in northern hardwood stands are evaluated." (p. 35)

1035 Richmond, A.P. and Malone, T., 1986. **Observed scarification rates and contract costs for the TTS-35 disc trencher in Interior Alaska.** University of Alaska-Fairbanks, School of Agric. and Land Res. Management, Agriculture and Forestry Expt. Station, Circular 53. 14 pp.
The TTS-35 is a relatively new piece of site-preparation equipment developed in Finland.

1036 Ross, M.S., 1984. **How much production forest land should Indonesia plan to keep?** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II, pp. 342-384.
"The paper discusses the factors influencing the area of land required for forest industries with particular mention of population... A methodology for predicting the area of production forest required in the year 2032 is developed." (p. 342)

1037 Straka, T.J., 1982. **Choice of regeneration methods: Economic considerations.** In: Proceedings of a Workshop on Regeneration of Southern Pines, Woodworth, LA, 1982. Forestry and Harvesting Training Center. pp. 20-43.

1038 Stumbles, R.E., 1986. **Oceanic Forestry: Is there an alternative.** Quarterly Journal of Forestry 80:122-128.

"The economics of Oceanic thinning are compared with conventional methods of thinning, and with leaving the crop unthinned." (p. 122)

1039 Sutisna, W., 1984. **Sawtimber plantations in Indonesia.** In: ASEAN Forest Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 514-520.

1040 Benson, R.E. and Niccolucci, M.J., 1986. **What does it cost to protect nontimber resources during logging?** American Forests 92(6):26-28, 53-54.

1041 Brodie, J.D., 1985. **Economic analysis of shelterwood versus clearcut decisions.** In: Mann, J.W. and Tesch, S.D., eds. Proc. of a Workshop on the Shelterwood Management System. pp. 29-32.

"Impacts of adopting the shelterwood system on the harvest scheduling and planning system are also discussed." (p. 29)

1042 Castri, J.L., 1983. **Forest monitoring and harvesting policies.** International Institute for Applied Systems Analysis, Research Report RR-83-10. [30] pp.

Reprinted from Applied Mathematics and Computation 12:19-48, 1983. "This paper considers the problems of what information must be measured in a forest management model in order to generate optimal feedback harvesting policies."

1043 Cubbage, F. and Werblow, D., 1986. **Forest harvesting equipment costs 1984/1985.** American Pulpwood Association Inc., Technical Release 86-R-14. 2 pp.

"This report estimates the costs of owning and operating various categories of equipment used in forest harvesting." (p. 1)

1044 Deal, E.L., 1985. **The opportunity cost of being in the logging business.** In: Appalachian Society of American Foresters. This business of forestry. pp. 104-118.

"A financial study and comparison of a typical Eastern North Carolina logger with other potential enterprises shows that logging has not been a particularly good investment over the past few years."

1045 Dykstra, D.P., 1986. **The influence of logging costs on optimal rotation age for site/Pinus patula in Tanzania.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 297-310.

1046 Harrison, T.P. and Rosenthal, R.E., 1986. **A multiobjective optimization approach for scheduling timber harvests on nonindustrial private forest lands.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 269-283.

"TVA's forest management program, called WRAP, is a multiobjective optimization program. It considers eight landowner objectives: (i) the net present value of timber income, (ii) a measure of recreation, and (iii-viii) the populations of six wildlife species...." (p. 269)

1047 Huyler, N.K., Koten, D.E., Lea, R.V., and Quadro, A.P., 1984. **Productivity and cost of three small fuelwood skidders.** Journal of Forestry 82:671-674.

1048 Kellogg, L.D., Olsen, E.D., and Hargrave, M.A., 1986. **Skyline thinning a western hemlock-Sitka spruce stand: Harvesting costs and stand damage.** Oregon State University, Forest Research Laboratory, Research Bulletin 53. 21 pp.

Harvesting costs and stand damage were compared for three thinning treatments: Selective narrow and wide residual tree spacing, and herringbone strip cutting.

1049 Konopka, J., 1985. **[The concentration of the forestry operations.]** Bratislava, Ministerstvo Lesneho a Vodneho Hospodarstva SSR. 126 pp.

In Czech, with summaries in English, Russian, and German. Discusses the concentration of the procedures of forest production. "The most attention is paid to the concentration of logging operations (the logging and transport process)." (Eng. Sum.)

1050 Kramer, B.W. and Conan, B.M., 1985. **Cost variations between clearcut and shelterwood harvest systems in Southwest Oregon.** In: Mann, J.W. and Tesch, S.D., eds. Proc. of a Workshop on the Shelterwood Management System. pp. 25-26.

"Two logging methods were examined in this paper: Cable (skyline) and tractor. Cost comparisons showed that shelterwood harvesting costs, when compared to clearcutting costs, adds an additional 39% for skyline logging and 13% for tractor logging." (p. 25)

1051 Larsen, D.N., 1986. **1984 timber harvest report.** Washington State Dept. of Natural Resources, Analysis and Planning Section. 49 pp.

This report provides an historical record of timber harvest activities by county, ownership class, product class and species. Published annually.

1052 Mann, J.W. and Tesch, S.D., editors, 1985. **Proceedings of a Workshop on the Shelterwood Management System, Grants Pass, OR, May 13-14, 1985.** Oregon State University, Forest Research Laboratory. 116 pp.

Sponsored by the Southwest Oregon Forestry Intensified Research (FIR) Program and the Society of American Foresters G-1, Production and Utilization Working Group. Selected papers are indexed in this section.

1053 Mann, J.W., 1985. **Logging planning to achieve shelterwood management objectives.** In: Mann, J.W. and Tesch, S.D., eds. Proc. of a Workshop on the Shelterwood Management System. pp. 43-46.

"Logging planning is an integral part of the project plan

for the shelterwood regeneration system because the harvesting operation affects and is often affected by other activities during the regeneration process." (p. 43)

1054 McCool, S.F., Benson, R.E., and Ashor, J.L., 1986. **How the public perceives the visual effects of timber harvesting: An evaluation of interest group preferences.** Environmental Management 10:385-391.

1055 Phillips, W.W., Corcoran, T.J., and Brann, T.B., 1986. **A data-base system for wood harvest and transportation planning.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 389-402.

"This paper describes an automated technique for selection for timber salvage operation sites and determination of wood flow to associated market locations." (p. 389)

1056 Reed, W.J. and Errico, D., 1986. **Optimal harvest scheduling at the forest level in the presence of the risk of fire.** Canadian Journal of Forest Research 16:266-278.

1057 Ryan, T., 1984. **Harvesting management: An Australian approach.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 388-399.

1058 Sarles, R.L. and Luppold, W.G., 1986. **Technoeconomic analysis of conventional logging systems operating from stump to landing.** U.S. Forest Service, Research Paper NE-577. 23 pp.

"Analyzes technical and economic factors for six conventional logging systems suitable for operation in eastern forests. Discusses financial risks and business implications for loggers investing in high-production, state-of-the-art logging systems."

1059 Seymour, R.S. and Gadzik, C.J., 1985. **Commercial thinning in small-diameter spruce-fir stands--production and cost of skidding and skyline yarding, with and without prebunching.** University of Maine, College of Forest Resources, Cooperative Forestry Research Unit, Research Bulletin no. 6; Maine Agricultural Experiment Station, Miscellaneous Report 309. 46 pp.

1060 Sinclair, A.W.J., Clark, M.L., and Wong, T.B., 1986. **Two replacement models for B.C. coastal logging equipment.** Forest Engineering Research Institute of Canada, Technical Report no. TR-68. 34 pp.

One of the objectives of this study was "to compare the historical equipment replacement policies of coastal British Columbia forest companies to the results from economic replacement models and, if replacement age differed, to demonstrate cost savings from timely replacement based on economic theory." (p. S-1)

1061 Weintraub, A. and Navon, D., 1986. **Mathematical programming in large scale forestry modeling and applications.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 337-351.

"The mathematical structure of two linear programming models widely used for timber harvest scheduling by public enterprises are compared, and their operational implications discussed." (p. 337)

1062 Wilson, F.G., 1986. **Log merchandising in woods: A concept.** Forest Industries 113(4):37.

1063 Bystrom, S. and Lonnstedt, L., 1985. **[Effects of roundwood prices on the supply from Swedish non-industrial private forest owners.]** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 143-157.
In Swedish with English summary.

1064 Carlen, O. and Lofgren, K.G., 1986. **Supply consequences of subsidization of thinning activities in Sweden: An econometric analysis.** Sveriges Lantbruksuniversitet, Institutionen for Skogsekonomi, Rapport 61. 16 pp.
"The purpose of this paper is to use the information in a questionnaire to a sample of private forest owners...to evaluate the impacts on wood supply of the thinning subsidy." (p. 2)

1065 Carlen, O. and Muller, A., 1985. **What determines the private forest owner's decision to cut--an econometric study based on Swedish survey data.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 158-171.

1066 Karppinen, H. and Hanninen, H., 1986. **[The use of allowable drain from private woodlots (IV). Preliminary results concerning two forestry board districts in southern Finland.]** Metsantutkimuslaitoksen Tiedonantoja 217. 84 pp.
In Finnish, with English summary.

1067 Lofgren, K.G., Bangman, G., and Wiberg, A., 1986. **The supply of roundwood and taxation.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 227-243.
"The purpose of this paper is to introduce two ways of modeling the supply of roundwood, the present value maximizing forestry firm (PVFF-model) and the self-active forestry farmer (SAFF-model), and analyse how the supply of roundwood is affected by parameter changes such as changes in prices, changes in tax rates, and a switch from one system of taxation to another." (p. 227)

1068 Lohmander, P., 1985. **A note on optimal supply behaviour under different taxation regimes.** In: Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 178-197.
"Five different taxation regimes are investigated with respect to the properties of the intertemporal timber supply function." (p. 178)

1069 MacLean, D.A. and Erdle, T.A., 1984. **A method to determine effects of spruce budworm on stand yield and wood supply projections for New Brunswick.** Forestry Chronicle 60:167-173.
Spruce budworm damage and its effects on yield should be considered "explicitly within wood supply analyses and forest

management planning...." (p. 172)

1070 Maine Forest Service, 1983. **Creating a new forest--a discussion paper based on the Maine spruce-fir supply/demand analysis.** Maine Dept. of Conservation, Maine Forest Service. 21 pp.
A discussion paper based on the J.W. Sewall Co. analysis.

1071 Salleh, M.N., 1986. **R & D needed to ensure Asian timber supply.** World Wood 27(1):21-23.
The author argues that one way to guard against future timber shortages, as well as to improve utilization of existing resources, is to increase research efforts.

1072 Sewall, J.W. Co. 1983. **Spruce-fir wood supply/demand analysis: Final report.** Maine Dept. of Conservation.
The final report of a study mandated by the Maine Legislature--"a study of future spruce and fir timber supply and demand as a function of varying levels of protection and management... The underlying hypothesis was that management of the spruce-fir resource could be directed toward reducing adverse ecological and economic effects of the current spruce budworm epidemic."

1073 Stier, J.C., Steele, T.W., and Englhard, R.J., 1986. **Pulpwood procurement practices in the Wisconsin-Upper Michigan pulp and paper industry.** Northern Journal of Applied Forestry 3:10-14.
Results of the study "indicate that mills rely strongly upon public and private sources of timber, that they are highly dependent on truck transportation of wood supplies and that they have built up strong procurement departments with links to a broad base of pulpwood producers." (p. 10)

1074 Styrman, M. and Wibe, S., 1986. **Wood resources and availability as determinants of the supply of timber.** Canadian Journal of Forest Research 16:256-259.
"This paper presents a supply and demand model for the production of timber." "The originality of this article lies in the inclusion of the supply side." (p. 256)

1075 Tansey, J.B. and Kellison, R.C., 1985. **The supply and availability of hardwoods in the southeastern coastal plain.** North Carolina State University, School of Forest Resources, Hardwood Research Cooperative Series no. 4. 52 pp.
"Physical restrictions and the extent to which they limit year-round availability of hardwoods in the South Atlantic and portions of the East Gulf Coastal Plain are evaluated." (abstract)

1076 Bolle, A.W., 1986. **Below-cost timber sales and Montana's long-term timber supply.** Western Wildlands 12(1):35-38.

1077 Combes, J.A., 1986. **The forest products marketplace: A changing resource and below-cost sales.** Western Wildlands 12(1)::6-10.

1078 Daniels, S.E. and Daniels, B.J., 1986. **The impact of below-cost timber sales on community stability.** Western Wildlands 12(1):26-30.

"This article explores the effectiveness of below-cost timber sales in maintaining community stability." The authors "examine the economic impacts of below-cost timber sales on a small local economy typical of timber-dependent communities in the northern Rocky Mountains." (p. 26)

1079 Dowdle, B., 1986. **Below-cost timber sales: A macro view.** Western Wildlands 12(1):31-34.

1080 Emerson, P.M., 1986. **The below-cost timber sale issue: Going against the grain?** Western Wildlands 12(1):16-21.

1081 Humphries, W.C., Jr., 1986. **Conversion factor is key to profit when selling timber.** Forest Farmer 45(7):11.

1082 Jackson, D.H., 1986. **Below-cost sales: Causes and solutions.** Western Wildlands 12(1):11-15.

1083 Minnesota Dept. of Natural Resources, Division of Forestry, 1986. **Public stumpage price review.** 1985 edition. Minnesota Dept. of Natural Resources, Division of Forestry. [7] pp.

Produced annually by the Forest Economics Unit of the Division of Forestry. "The information contained in this report was collected by a mail survey of public agencies selling timber stumpage in Minnesota."

1084 Muraoka, D.D. and Watson, R.B., 1986. **Improving the efficiency of federal timber sale procedures: An update.** Natural Resources Journal 26:69-76.

Describes and analyzes the procedural changes that have been made by the Forest Service and Congress to address the sale default problem.

1085 Myers, P.C., 1986. **Below-cost timber sales: An overview of the issue--understanding the linkages.** U.S. Forest Service, Friday Newsletter Feb. 28, 1986, suppl. 14 pp.

Paper presented at Conference on the Economics of National Forest Timber Sales, Spokane, Washington, Feb. 18, 1986.

1086 O'Toole, R., 1984. **Does it or doesn't it?** Forest Planning

5(4):11-16.

The author discusses the merits of using economic analyses to determine whether or not a timber sale is losing money. The article distinguishes between two types of analyses: "cash-flow" and "economic".

1087 Reid, R.G., 1985. **Below-cost timber sales: A no-answer policy question?** Western Wildlands 12(1):22-25.

1088 Risbrudt, C., 1986. **The real issue in below-cost sales: Multiple use management of public lands.** Western Wildlands 12(1):2-5.

"The current debate...about the economics of national forest timber sales is basically one of land management: it also concerns the relationship between income-producing activities on the national forests and those which produce little or no revenue." (p. 2)

1089 Andersen, S. and Brownwright, A.J., 1985. **Ontario pulp and paper industry: Corporate ownership.** Great Lakes Forestry Centre, Miscellaneous Report no. 31. 108 pp.

"Ownership of all Ontario-based pulp and paper mills and of the major paper converting plants and production facilities is summarized. All major production facilities are listed and specific information is provided on ownership, location, total employment and products." (Abstract) (J.H.S.)

1090 Bilek, E.M. and Ellefson, P.V., 1986. **Stock ownership of selected public U.S. wood-based corporations.** Forest Products Journal 36(3):13-16.

"Of the 26 1980 Fortune 500 wood-based companies reviewed, only one had a leading shareholder controlling 50 percent or more of its stock...." (p. 13)

1091 Bingham, C.W., 1985. **The forest industries' future.** In: Oregon State University, College of Forestry, 1985 Starker Lectures. pp. 7-15.

1092 Cleaves, D.A. and O'Laughlin, J., 1986. **Analyzing structure in wood-based industry: Part 1. Identifying competitve strategy.** Forest Products Journal 36(4):9-14.

1093 Drake, P. and Palmer, B., 1985. **Higher value options in the board industry.** In: Washington State University International Particleboard/Composite Materials Symposium. Proceedings 19:53-66.

Companies can develop higher value products by: (1) vertical integration (taking over the further processing activity of their customers), (2) modifying the product, and (3) producing different products from the fiber available.

1094 Exner, K.J. and Hook, M.L., 1983. **Extended nip press economic analysis.** Proceedings of the Technical Association of the Pulp and Paper Industry 1983 Annual Meeting. pp. 133-141.

"This paper investigates the economics of installing a Beloit Corporation Extended Nip Press to replace existing wet press equipment on a hypothetical linerboard machine located in the southeastern United States." (p. 133)

1095 Francia. F.C., 1984. **Utilization of ASEAN timber resources.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 569-585.

1096 Hagemeyer, R.W., 1985. **Future technical needs and trends in the paper industry.** TAPPI Pulping Conference, 1985. Proceedings 1:1-18.

Includes information on consumption, prices, and production of paper, paperboard, and wood pulps. Includes

historical statistics and trends to 2000.

1097 Hayashi, R., 1984. **Paper and pulp industries of Japan and pulpwood plantations.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 505-509.

1098 IEA Consulting Group Ltd., 1985. **Economic evaluation of wood chip production alternatives for P.E.I.** ENFOR Project P-292. 122 pp. + appendices.

"The objectives of this study were to examine the wood fuel supply systems on P.E.I., to recommend improvements in the existing systems and to analyze the feasibility of establishing a centralized wood chip terminal. Analysis of the projected markets, the major supply systems outside P.E.I. and the suitable wood chip supply businesses was performed to support the above objectives." (p. i)

1099 Irland, L.C., 1986. **The changing paper industry in New England.** Northern Logger and Timber Processor 34(10, i.e. 11):8-9, 74-75.

"This article reviews the prinicipal themes in the industry's history in New England, and then discusses in more detail the changing pattern of paper production in the region from 1973 to 1983." (p. 8)

1100 Johansson, B., 1986. **A structural change model for regional allocation of investments.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 143-158.

"The industrial establishments of the forest industry are often concentrated in distinct regions in which they employ a significant part of the labor force. This paper presents a model which provides a means to analyze and evaluate investment patterns and programs in such regions." (p. 143)

1101 Killian, S.P., III., 1983. **Wood procurement for the southern paper industry.** Proceedings of the Technical Association of the Pulp and Paper Industry 1983 Annual Meeting. pp. 285-288.

The three key elements in delivering raw material to a user mill are: Timber supplies, harvesting methods, and transportation.

1102 Kirjasniemi, M., 1986. **The use of economic value of wood in comparing long-term strategies for forest industries.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 159-176.

"This article describes the long-term planning problems of the forest industry." (p. 159)

1103 Koenigshof, G.A., 1983. **Economic feasibility of manufacturing COM-PLY floor joists.** U.S. Forest Service, Research Paper SE-241. (COM-PLY Report 26)

"Investments, production costs, and probable returns for

manufacture of COM-PLY floor joists are presented. The report shows that it is possible to obtain a 25 percent or greater after-tax internal rate of return on the investment."

1104 Kolenka, I., 1985. **[Prediction of economic development in forestry.]** In: Ruprich, J. et al. Aktuelle probleme der Betriebsfuhrung. pp. 122-135.

In Czech with English summary. The report "deals with the prediction of economical development of a forest enterprise using econometric models." (p. 134) (JR)

1105 Lee, K.J., 1985. **[Accuracy of surveys of future capacity for the world pulp and paper industries.]** Quarterly Journal of Chinese Forestry 18(4):45-55.

In Chinese with English summary. "In this paper, the accuracy for capacity expectations of the world pulp and paper industries made by FAO was analyzed." (p. 45)

1106 Merrifield, D.E. and Singleton, W.R., 1986. **A dynamic cost and factor demand analysis for the Pacific Northwest lumber and plywood industries.** Forest Science 32:220-233.

"The objective of this paper is to obtain dynamic cost and factor demand functions for the Pacific Northwest (Oregon and Washington) lumber and plywood industries over the data period 1954-80." (p. 221)

1107 Nevel, R.L., Jr., Engalichev, N., and Gove, W.G., 1986. **The timber industries of New Hampshire and Vermont: A periodic assessment of timber output.** U.S. Forest Service, Resource Bulletin NE-89. 56 pp.

1108 Nylinder, M., 1986. **[The sawmill industry 1984. Part 2: Production conditions.]** Sveriges Lantbruksuniversitet, Institutionen for Virkeslara, Rapport nr. 171. 47 pp. + app.

In Swedish with English summary. Deals principally "with the industry's production conditions as regards types of mills, yield, productivity and mechanical equipment." (p. 3)

1109 O'Laughlin, J. and Ellefson, P.V., 1982. **New diversified entrants among U.S. wood-based companies: A study of economic structure and corporate strategy.** University of Minnesota, Agricultural Experiment Station, Station Bulletin 541; Forestry Series 37. 63 pp.

The two objectives of this study are to: (1) Define the extent of entry into the wood-based industry by large diversified companies; and (2) to evaluate strategic planning by new diversified entrants and its influence on decisions regarding strategically important timber resources. (p. 3)

1110 Platt, H.D., 1986. **Understanding coporate failures in the paper industry.** Tappi Journal 69(4):46-49.

1111 Plumptre, R.A., 1985. **Integrated wood-use centres for small industry development.** Commonwealth Forestry Review 64;375-382.
"Small wood-using industries play a very important part in the economics and development of many tropical countries but often little effort has been put into research for their benefit." (p. 375)

1112 Roche, A.A. and Bouchard, D.C., 1983. **An economic model for process management.** Proceedings of the Technical Association of the Pulp and Paper Industry 1983 Annual Meeting. pp. 3-8.
The economic model described combines "economic and technical considerations to evaluate overall mill performance, and contains a number of the essential ingredients of a mill-wide supervisory control system." (p. 7)

1113 Ryti, N., 1986. **Trends and likely structural changes in the forest industry worldwide.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 27-39.

1114 Saaksjarvi, M., 1986. **Cost allocation in cooperative wood procurement: A game theoretic approach.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 245-254.
"The problem of allocating the joint costs of timber procurement among the cooperating companies is formulated as a cooperative game...an application is presented to share the costs among a group of major Finnish pulp and paper companies." (p. 245)

1115 Schallau, C.H., Maki, W.R., Foster, B.B., and Redmond, C.H., 1986. **Kentucky's forest products industry: Performance and contribution to the state's economy, 1970 to 1980.** U.S. Forest Service, Research Paper PNW-354. 22 pp.
One of a series of reports for each of the 13 southern states.

1116 Simula, M., 1983. **Productivity differentials in the Finnish forest industries.** Acta Forestalia Fennica no. 180. 67 pp.

1117 Singham, S.S., 1984. **An effective strategy for timber resources utilization in the ASEAN region with special reference to Peninsular Malaysia.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 559-566.

1118 Western, A. and Allal, M., 1986. **Small-scale paper-making.** Geneva, International Labour Office. UNIDO/ILO Technical Memorandum no. 7; UNIDO/IS.602. 159 pp.
Prepared under the joint auspices of the ILO and the United Nations Industrial Development Organization. Includes a chapter on "Socio-economic effects of alternative paper manufacturing technologies: The case for mini paper mills."

1119 Widarmana, S., 1984. **Need for a more efficient and rational forest utilization in Indonesia.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 615-618.

1120 Godwin, J., 1984. **European Christmas tree market.** American Christmas Tree Journal 28(3):61-62.

1121 Huntley, W., 1984. **Marketing Christmas trees--turning a problem into an opportunity.** American Christmas Tree Journal 28(3):41-42.

1122 Rafats, J., 1986. **Christmas trees: Production and economics, 1979-1985.** U.S. National Agricultural Library, Quick Bibliography Series, NAL-BIBL. QB 86-08.
Includes 244 citations obtained by searching the database AGRICOLA.

1123 Tesoro, F.O., 1984. **Utilization of selected non-timber forest products in the Philippines.** In: ASEAN Forestry Congress, 1st, Manila, 1983. Proceedings. Book II. pp. 591-609.
"This paper deals with the utilization of selected non-timber forest products in the Philippines which include rattan, bamboo, tree exudates (resins), fuelwood, and charcoal." (p. 591)

1124 Adams, D.M. and Haynes, R.W., 1986. **A spatial equilibrium model of U.S. forest products markets for long-range projection and policy analysis.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 73-87.
"This paper describes the origins, structure, and simulation methods used in TAMM." (Timber Assessment Market Model) (p. 73)

1125 Affolter, E., 1985. **Zunehmende Zwangsnutzungen: Holzmarkt und Holzverwendung aus der Sicht der Waldwirtschaft.** Schweizerische Zeitschrift fur Forstwesen 136:805-818.
In German, French summary. In view of increased compulsory fellings the author calls for greater efforts of forestry to exhaust all possibilities of timber marketing. This should be supported by the authorities in the shape of financial subsidies. (WK, WK)

1126 Amari, Y., 1986. **Outlook for wood chips in Japan.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 98-110.
Wood chips used in the pulp and paper industry represent most of the total wood chip consumption in Japan.

1127 Andrews, R.A. and Richards, V.F.W., 1984. **Tenure of fuel wood vendors in New Hampshire, 1977 to 1983.** New Hampshire Agricultural Experiment Station Research Report no. 105.
A telephone survey was conducted in 1977 and a resurvey was completed in 1983-84. Of 120 who responded, 47 were no longer in the fuel wood business.

1128 Apsey, T.M., 1986. **Trade policy issues in fiber products: A Canadian perspective.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 259-264.

1129 Baskerville, D.D., 1986. **Meeting Japanese product requirements: Observations from a management perspective.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 75-97.
"Success in the Japanese market is measured in slow increases in volume as a company moves down the learning curve of product matching. Key success factors, besides product specifications, include a long-term commitment to the Japanese market, attention to detail and appearance in packaging and promotion...." (p. 96)

1130 Bethel, J.S. and Tseng, A.Y., 1986. **Developing countries as markets for forest products.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 11-47.

1131 Brannlund, R., 1985. **Equilibrium versus disequilibrium: an econometric analysis of the Swedish sawtimber market.** In:

Helles, F., ed. Current research in forest economics in the Scandinavian countries. pp. 104-142.

1132 Bulkeley, G., 1986. **Changing trends in British-Soviet trade.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 157-167.

1133 Buongiorno, J., 1986. **A model for international trade in pulp and paper.** In: Kallio, M. et al., eds. Systems analysis in forestry and forest industries. pp. 41-54.

"This paper outlines the mathematical structure of a world model of the pulp and paper industry."

1134 Dargavel, J., 1985. **Allocating forest resources to woodchip exports: Articulated impacts and public policies.** Canberra, Australian National University, Centre for Resource and Environmental Studies, CRES Working Paper 1985/4. 21 pp.

"The woodchip export industry is evaluated against initial expectations and changed economic circumstances. It is linked or 'articulated' to the logging, sawmilling and domestic paper industries through joint production and public finance." (Abstract)

1135 Donahue, G., 1986. **The International Tropical Timber Agreement: What difference will it make?** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 242-247.

"The principal functions of the International Tropical Timber Organization (ITTO), created by the agreement, are (1) to compile and disseminate better and more comprehensive international statistical data on tropical timber production, consumption, and trade, and (2) to consider and select projects to be financed through voluntary funding." (p. 242)

1136 Durst, P.B., 1985. **Factors influencing discrepancies between forest products trade reports of the Philippines and its trading partners.** College, Laguna, Philippines, UPLB College of Forestry, Forestry Development Center, Policy Paper no. 17. 21 pp. + 3 p. lit. cit.

"Discrepancies between trade reports of the Philippines and its trading partners can result from many factors. Some inconsistencies are inherent in the reporting system, others are due to deficiencies of the reporting agencies. Still other discrepancies result when illegal trade circumvents normal recording procedures."

1137 Durst, P.B., Ingram, C.D., and Laarman, J.G., 1986. **Statistics on forest products trade: Are they believable?** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 265-273.

The authors deal with the questions "To what extent do inaccuracies enter the data on trade of forest products?" and provide a preliminary answer in the form of a case study.

1138 Dykstra, D., Kallio, M., and Kornai, G., 1986. **Spatial equilibrium modeling for analysis of world trade in forest products.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 274-290.

A discussion of the Global Forest Sector Model, commonly referred to as the Global Trade Model, developed by the IIASA.

1139 Economic Commission for Europe, and FAO, 1985. **Forest products statistics 1980-June 1985.** Timber Bulletin 38(10):1-74.

Includes statistics on production, imports and exports for Europe, USSR, Canada, U.S., Israel, and Japan.

1140 FAO Forestry Department, 1985. **Forest products prices 1965-1984.** Rome, Food and Agriculture Organization of the United Nations, FAO Forestry Paper no. 61. 119 pp.

"A summary presentation of price development in the form of aggregate price indices is included as an introduction to the tables."

1141 FAO, 1986. **Monthly bulletin tropical forest products in world timber trade, Sept., 1985.** [Rome], Food and Agriculture Organization of the United Nations, FO:Misc/86/1. 53 pp.

1142 FAO, 1986. **Monthly bulletin tropical products in world timber trade, quarterly supplement...Sept., 1985.** [Rome] Food and Agriculture Organization of the United Nations, FO:Misc/86/2. 13 pp.

Includes tables on recent trends in tropical timber trade--imports of major consuming countries, recent trends in tropical log trade, in tropical sawnwood trade, in tropical veneer trade, and in tropical plywood trade. Period covered is Oct., 1984-Sept., 1985. Also includes price information.

1143 FAO, 1986. **Monthly bulletin tropical forest products in world timber trade, Oct.-Nov., 1985.** [Rome], Food and Agriculture Organization of the United Nations. FO:Misc/86/5. 53 pp.

1144 FAO, 1986. **Yearbook of forest products, 1984.** Rome, Food and Agriculture Organization of the United Nations, FAO Forestry Series no. 19; FAO Statistics Series no. 67. 400 pp.

"This is the thirty-eighth issue of the Yearbook of Forest Products. The Yearbook contains annual data on the production and trade in forest products for the years 1973-1984, and direction of trade in 1983 and 1984." (p. 9)

1145 Fenton, R.T., 1986. **The Japanese market as viewed from Oceania.** In: Schreuder, G.F., ed. World trade in forest products 2. pp. 111-128.

"The declining sawn timber consumption and the downward revisions of the pulp and paper forecasts in Japan are disturbing in view of the expanded plantation programs in New Zealand, Fiji, and smaller Oceanian countries." (p. 126)

1146 Ferguson, I.S. and Bigsby, H.R., 1985. **Australia and New Zealand--competitors or collaborators? An Australian perspective.** Australian Forestry 48:160-172.
"A history of the recent relationships between the wood-based industries of the two countries is outlined. Future prospects for competition and collaboration are reviewed for trans-Tasman trade and for trade with third countries." (p. 160)

1147 Fischer, B.C., 1983. **Marketing timber.** Purdue University, Cooperative Extension Service, Forestry and Natural Resources FNR-111. 11 pp.
Advice for woodland owners.

1148 Fuller, B., 1985. **Economics of substitution: Prospects for nonveneered and veneered structural panels and other nontraditional wood products.** In: Washington State University International Particleboard/Composite Materials Symposium. Proceedings 19:21-51.
New markets must be developed for the forest products produced using new technologies. Cost and price advantages of these products are not in and of themselves sufficient to generate market acceptance.

1149 Globe XM Ltd., 1986. **Forest products markets in the Pacific Rim 1985.** Prepared under contract for Tennessee Valley Authority. Jackson, Miss., Globe XM Ltd. 81 pp.
The primary objective of the project was the "identification of Pacific Rim markets for a wide variety of forest products that are, or could be, exported from a 17 county area bordering the Tennessee-Tombigbee Waterway in Mississippi and Alabama." (p. 1) The author's address is P.O. Box 16409, Jackson, MS 39236.

1150 Guss, L.M., 1985. **Export problems and opportunities with structural panels.** In: Washington State University International Particleboard/Composite Materials Symposium. Proceedings 19:67-76.

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AUTHOR INDEX

Aarnio, J. 1009
Absher, J.D. 901
Achaya, K.T. 685, 686
Adams, D.M. 1124
Adeyoju, S.K. 677
Affolter, E. 1125
Albin-Smith, T.K. 987
Albrecht, D.E. 913
Alig, R.J. 651
Allal, M. 1118
Allen, H.L. 1010
Allen, J.C. 728
Alston, R.M. 662
Amari, Y. 1126
Andersen, S. 1089
Anderson, C.L. 902
Anderson, R.B. 1168
Anderson, W.C. 696
Andersson, A. 774
Andersson, A.E. 775, 779
Andrews, R.A. 1127
Ansari, M.Y. 1185
Anziani, M.P. 787
Appalachian Society of American Foresters 697
Apsey, T.M. 1128
Araman, P.A. 1151
Aranc, R.R. 678
Armstrong, J.P. 806
Arnold, R. 1011
Ashor, J.L. 1054
Axelsson, J. 1012

Bacor, G.J. 797
Bader, J. 863
Bailey, H.B., Jr. 716
Baird, A.W. 870
Bangman, G. 1067
Barnes, D. 1006
Barrager, S.M. 887
Barron, D.E. 838
Bartlett, A.G. 855
Bartunek, J. 646
Baskerville, D.D. 1129
Becker, R.H. 970
Belford, J.G. 1197
Belliappa, K.A. 729
Bennett, R. 941
Benson, R.E. 1040, 1054
Bertelson, D.F. 660, 661
Bethel, J.S. 1130

Bevins, M.I. 903
Bigsby, H.R. 1146
Bilek, E.M. 1090
Bingham, C.W. 1091
Birdsey, R.A. 652, 871
Bishop, R.C. 904
Blackman, T. 881
Blackwelder, R.H. 1013
Blank, U. 935
Blatner, K.A. 873, 1167
Bludovsky, Z. 1014
Bolle, A.W. 1076
Bonnor, G.M. 653, 1174
Borkan, R.E. 985
Bossi, J.E. 918
Bostrand, L. 788
Bouchard, D.C. 1112
Boutland, A. 882
Boyd, R. 711
Boyle, K.J. 904
Brabander, H. 692
Bradshaw, L.S. 895
Branham, S.J. 823, 888
Brann, T.B. 1055
Brannlund, R. 1131
Breen, A. 939
Brevig, F.K. 820
Brodie, J.D. 1041
Brokken, R. 989
Bromley, P.T. 998
Brown, B.G. 889
Brown, C. 905
Brown, G.P. 961
Brown, T.C. 947
Brown, T.L. 906
Brownwright, A.J. 1089
Buck, R.L. 919
Bulkeley, G. 1132
Bullard, S.H. 695, 789
Buongiorno, J. 1133
Burley, J. 762
Burroughs, R.G. 870
Burton, J.R. 679
Busby, R.J.N. 1015
Bush, C.E. 698
Byron, N. 730
Bystrom, S. 1063

Cadelina, R.V. 731
Campbell, K.L. 838
Canadian Society of Environmental Biologists, Alberta Chapter 825

Canham, H.O. 699
Capp, J.C. 1004
Carlen, O. 1064, 1065
Castanos M., L.J. 776
Castri, J.L. 1042
Cejchan, S. 1016
Cernea, M.M. 732
Cestar, D. 969
Chandrasekharan, C. 733
Chatterjee, N. 734
Chen, S.R. 949
Chetty, N.V.R. 735
Chilman, K.C. 907
Chowdhry, K. 736
Christanty, L. 763
Christensen, J.E. 908
Christiansen, M.L. 955
Clark, M.L. 1060, 1198
Clarke, J.N. 672
Clawson, M. 673, 864, 909
Cleaves, D.A. 1092
Clepper, H. 663
Club du Sahel 764
Cockrell, D. 910, 911
Cohan, D. 887
Combes, J.A. 1077
Conan, B.M. 1050
Connelly, N.A. 906
Connor, M.D. 821
Cook, C.M. 912, 950
Cooper, R.J. 790
Corcoran, T.J. 1055
Cordell, H.K. 913, 914, 918, 922, 949, 952
Cortes, E.V. 839
Cory, D.C. 856, 915
Cowling, E.B. 826
Cubbage, F. 868, 1043

Daniels, B.J. 1078
Daniels, S.E. 1078
Dargavel, J. 720, 721, 882, 1134
Davidson, J.A. 992
Davis, W.C. 670
Deal, E.L. 1044
Dederich, P.K. 709
Delforce, R.J. 916
Dennis, D.F. 1182
Dennis, W.C. 865
Detering, S. 989
Dick, R.E. 917
Ditton, R.B. 999

Dohaney, M.T. 791
Domingo, I.L. 1017
Donahue, G. 1135
Doolittle, L. 870
Dottavio, F.D. 943, 964, 970
Dove, M.R. 737
Dowdle, B. 1079
Drake, P. 1093
Driver, B.L. 918
Drushka, K. 840
Dudley, N. 827
Durst, P.B. 1136, 1137
Dwyer, J.F. 919
Dykstra, D. 1138
Dykstra, D.P. 1045

Eagles, P.F.J. 828
Easter, K.W. 997
Echelberger, H.E. 920, 950, 971
Economic Commission for Europe 1139
Ehrenreich, D. 807
Eickhoff, W.D. 712
Elfring, C. 972
Ellefson, P.V. 674, 1090, 1109
Elsner, G.H. 921
Emerson, P.M. 1080
Engalichev, N. 1107
Englhard, R.J. 1073
English, D.B.K. 922, 949
Erdle, T.A. 1069
Eriksson, L. 1012
Errico, D. 1056
Ewert, A. 923, 924
Exner, K.J. 1094

FAO 1139, 1141, 1142, 1143, 1144
FAO Advisory Committee on Forestry Education 792
FAO Forestry Department 815, 1140
Facso, R.S. 872
Fedler, A.J. 999
Feit, E. 1199
Fenton, R.T. 1145
Ferguson, I.S. 1146
Fesermaier, D.R. 914, 925, 961
Ffolliott, P.F. 1000
Fischer, B.C. 1147
Fisher, A.C. 973
Force, J.E. 807
Ford, R.D. 1200
Fort, J. 821

Fortin, I.A. de 793
Foster, B.B. 1115
Fowler, K.S. 680
Francia, F.C. 1095
Frazer, E.C., III 700
Frieswyk, T.S. 654, 655
Frome, M. 974
Fruhwald, A. 805
Fuller, B. 1148

Gabriel, H.W. 890
Gadzik, C.J. 1059
Gane, M. 681
Gantner, A.G. 701
Gitelson, R.J. 794
Gleed, J.A. 1011
Globe XM Ltd. 1149
Gluck, P. 675
Godwin, J. 1120
Gonzalez, F.G. 795
Goransson, M. 717
Gove, W.G. 664, 1107
Gramann, J.H. 913
Graniczny, S. 841
Greene, J.L. 873
Griess, O. 842
Grison, F. 765
Guldin, R.W. 696, 1018, 1019
Guss, L.M. 1150

Hagemeyer, R.W. 1096
Hager, W.A. 977
Halteman, W.A. 912
Hamilton, A.C. 829
Hamilton, C. 738
Hamilton, R.A. 712
Hammitt, W.E. 927
Haney, H.L., Jr. 874
Hanninen, H. 1066
Hansen, B.G. 1151, 1183
Hargrave, M.A. 1048
Harou, P.A. 718
Harris, L.A. 1201
Harrison, T.P. 1046
Hart, D. 891
Hartmann, L.A. 914
Hartono, S. 926
Hastings, B.C. 927
Hayashi, R. 1097
Haymond, J.L. 875

Haynes, R.W. 1124
Heap, J.R. 976
Heaps, T. 713
Hecock, R. 936
Hecock, R.D. 928
Helles, F. 638
Helliwell, J.F. 713
Hendee, J.C. 917
Herberger, R.A. 991
Hermelin, J. 822
Hertel, G.D. 823
Hibberd, B.G. 639
Hieke, C. 894
Hirata, K. 676
Hoare, P.W.C. 766
Hobley, M. 721
Hof, J.G. 682
Hofstad, O. 683
Holecek, D.H. 949
Holley, D.L., Jr. 1020
Holmes, J.J. 992
Holmes, M.J. 1034
Holten-Andersen, P. 714, 1021
Homchoen, S. 751
Hook, M.L. 1094
Hoover, R.L. 1001
Hoover, W.L. 715, 1152
Hornback, K.E. 929
Hoskins, M. 739
Hovind, H.J. 688
Howard, D.R. 965
Howe, B.I. 702
Howe, C.Z. 952
Hronek, B.B. 930
Hrubes, R.J. 684
Hufschmidt, M.M. 997
Hultkrantz, L. 1153
Humphrey, D.W. 931
Humphries, W.C., Jr. 1081
Hunter, D.O. 899
Huntley, W. 1121
Huria, V.K. 685, 686
Huyler, N.K. 1047
Hyman, E. 740, 1154

IEA Consulting Group Ltd. 1098
Ihalainen, R. 796
Illinois Department of Conservation 932
Ingram, C.D. 1137
International Planning and Analysis Center, Inc. 1155
International Union of Forestry Research Organizations 843

Irland, L.C. 665, 1099, 1156
Iskandar, J. 763

Jaaskelainen, H.L. 830
Jabil, D.M. 1022
Jackson, D.H. 1082
Jackson, T.P. 1161
Jameson, R. 1002
Japan Lumber Importers' Association 1157, 1158
Jen, I-an 1023, 1159
Jennings, K.S. 797
Jimenez, D. 652
Jobstl, H. 844
Johansson, B. 1100
Johnson, J.A. 1034
Johnston, T. 882
Joyce, L.A. 988

Kaiser, H.F. 872
Kallio, M. 774, 775, 777, 778, 779, 1138, 1160
Karpowicz, Z. 975
Karppinen, H. 1066
Kawamura, M. 676
Keegan, C.E., III 1161
Keegan, W. 934
Keith, J.E. 1003
Kellison, R.C. 1075
Kellogg, L.D. 1048
Kelly, J.R. 933
Kengen, S. 721
Kennedy, J.J. 798
Kenny-Jordan, C.B. 741
Ketcheson, D.E. 1162
Keuffel, W. 693
Kilkki, P. 1024
Killian, S.P., III 1101
King, D.A. 682
Kirby, K.J. 976
Kirby, M.W. 977
Kirjasniemi, M. 1102
Kjode, A. 941
Klar, L.R., Jr. 934
Klemperer, W.D. 703
Klepac, D. 845
Knapp, G. 892
Knopp, T.B. 935
Koch, A.R. 940
Koch, P. 656
Koenigshof, G.A. 1103
Koirala, B.P. 742

Kolenka, I. 1104
Kolenka, J. 687
Koljonen, K. 780
Kongsangchai, J. 846
Konopka, J. 1049
Korinek, J. 640
Kornai, G. 1138
Koten, D.E. 1047
Kramer, B.W. 1050
Krasnoshchekova, G.S. 883
Krestyn, J. 876
Krishnankutty, C.N. 744
Kronrad, G.D. 857, 1163
Krutilla, J.V. 973
Kunst, P. 641

Laarman, J.G. 1137
Lange, W.J. 1164
Lantican, C.B. 799
Lappi, J. 1024
Larsen, D.N. 1051
Lea, R.V. 1047
Leary, R.A. 858
Lee, K.J. 1105
Leland, D.D. 1165
Leslie, A.J. 722
Lieber, S.R. 914
Liese, W. 802
Lime, D.W. 928
Lindberg, R.D. 688
Lipscomb, J.F. 1004
Lockie, I.J. 1025
Lofgren, K.G. 704, 717, 1026, 1064, 1067, 1166
Lohmander, P. 1027, 1068
Long, J. 936
Long, T.S. 1167
Lonnstedt, L. 781, 1063
Loomis, J.B. 948
Louisiana Office of Forestry 1028
Lovelace, G.W. 743, 750
Lucas, R.C. 937, 938
Lucy, J. 939
Lueck, D. 863
Lukehurst, C.T. 877
Lundgren, A.L. 817
Luppold, W.G. 1058, 1168
Lyon, K.S. 1003
Lyons, G.J. 1029

MacKintosh, B. 970
MacLean, D.A. 1069
Maine Forest Service 1070
Maki, W.R. 1115
Malaysia Ministry of Primary Industries 642
Maleta, B.P. 884
Malley, A.M. 654, 655
Malone, T. 1035
Mandelbaum, P. 831
Manfredonia, D. 940
Mann, J.W. 1052, 1053
Marek, J. 941
Marlow, J.A. 689
Marose, R.K. 682
Martel, J.-P. 838
Martin, W.E. 856
Martin-Montalvo, R. 643
Maruyama, H. 978
Matejicek, J. 1169
Matovic, A. 646
Mauricio, F.P. 1030
McCauley, D.S. 997
McCool, D. 672
McCool, S.F. 1054
McCurdy, H.E. 866
McDougall, F.W. 847
McKillop, W. 1170
McLellan, G. 942
McLellan, R.W. 913
Mealey, S.P. 1004
Meister, I.W. 1171
Membreno, B. 793
Mengak, K.K. 943
Mercer, D.E. 767
Merchant, H.F. 800
Merriam, L.C. 801, 979
Merrifield, D.E. 1106
Mestrovic, S. 980
Meulenhoff, M. 1172
Meyer, P. 1031
Mickey, A.E. 1202
Miegroet, M. Van 848, 849
Mincolla, J.A. 798
Minnesota Dept. of Natural Resources, Division of Forestry 1083
Mitchell, J.E. 988
Mohring, B. 693
Moll, G. 993
Montgomery, A.A. 878, 1193
Morandi, L. 859
More, T.A. 944
Morgan, A. 779
Morgan, J.N. 981

Morse, J. 1173
Muller, A. 1065
Munro, J. 885
Muraoka, D.D. 1084
Murphey, W.K. 824
Murphy, A.H. 889
Murphy, G. 850
Murphy, P.E. 945
Murphy, P.J. 822
Myers, P.C. 1085

Nair, C.T.S. 744
Nautiyal, J.C. 680
Navon, D. 982, 1061
Neilson, D.A. 1025
Nettleton, W.A. 821
Nevel, R.L., Jr. 1107
New Zealand Forestry Council 705
Niccoluoci, M.J. 1040
Nietmann, K. 1174
Nilsson, S. 782, 783
Nizon, V. 644
Noland, R.M. 995
Nomura, I. 1175
Noronha, R. 745
Norris, F. 1176
Novotny, M. 690
Nylinder, M. 1108
Nyyssonen, A. 1032

O'Laughlin, J. 1092, 1109
O'Leary, J.T. 943, 946, 964
O'Toole, R. 1086
Ofosu-Asiedu, A. 802
Ojansuu, R. 1032
Ollmann, H. 1177
Olsen, E.D. 1048
Oregon State University, College of Forestry 645
Oswald, D.D. 657
Owen, O.S. 983

Pacific Logging Congress 1178
Padhi, G.S. 658
Page, C.K. 659
Palmer, B. 1093
Palo, M. 818, 819
Pastor, M.R. 803
Patton, D.R. 1005
Pavlik, R.C. 984

Payuan, E. 746
Peine, J. 964
Perkins, C.J. 893
Peterson, G.L. 947, 948
Peterson, K.R. 1179
Peterson, T.A. 1180
Peyron, J.L. 784
Phillips, W.W. 1055
Pinchot, G. 666
Pitcher, J.A. 707, 871
Platt, H.D. 1110
Plochmann, R. 894
Plumley, H.J. 971
Plumptre, R.A. 1111
Pokorny, P. 852
Presley, J.J. 994
Priasukmana, S. 1181
Priesol, A. 851
Propoi, A. 777, 778
Propst, D.B. 949
Prouty, M. 1203
Pulkrab, K. 694

Quadro, A.P. 1047

Radtke, H. 989
Rafats, J. 1122
Raguse, C.A. 987
Rambo, A.T. 747, 768
Ramitanondh, S. 748
Randall, S.A. 962
Rao, Y.S. 749, 750
Ratanapanya, S. 751
Rathakette, P. 751
Raupp, M.J. 995, 996
Raymond, O.H. 1033
Rebugio, L.L. 752
Redhead, J.F. 804
Redmond, C.H. 1115
Reed, D.D. 1034
Reed, W.J. 1056
Reid, R.G. 1087
Reiling, S.D. 912, 950
Reilly, T.K. 1204
Remington, S.B. 1182
Repo, S. 879
Reynolds, H.W. 1183
Richards, V.F.W. 1127
Richardson, D. 719
Richmond, A.P. 1035

Richter, H.G. 805
Rideout, D. 706
Rigby, D. 939
Risbrudt, C. 1088
Risbrudt, C.D. 707
Risvand, J. 785
Roche, A.A. 1112
Rodiek, J. 1006
Roehl, W.S. 925
Rosenbaum, W.A. 867
Rosenberg, K.W. 1184
Rosenthal, R.E. 1046
Ross, D.T. 951
Ross, M.S. 1036
Rossi, D. 940
Rosson, J.F., Jr. 660, 661
Rowley, W.D. 667
Royer, J.P. 872
Ruangpanit, N. 754, 804
Rubner, H. 668
Ruprich, J. 646, 647, 852, 853
Ryan, T. 1057
Ryti, N. 1113

Saaksjarvi, M. 1114
Saastamoinen, O. 860
Sagar, S.R. 1185
Sakai, T. 1205
Salazar, L.A. 895
Sale, E.P. 952
Salleh, M.N. 1071
Sandfort, W.W. 1004
Sarles, R.L. 1058
Sarma, M.T.R. 755
Saunders, P.R. 953
Saussay, C. du 671
Savill, P.S. 762
Schallau, C.H. 1115
Schick, B.A. 1186
Schmidt, A.G. 886
Schmithusen, F. 723
Schreuder, G.F. 1187, 1188
Schroeder, H.W. 919
Schutt, P. 833
Sedjo, R.A. 869
Segura de los Angeles, M. 756
Seidl, R.J. 1189
Seppala, R. 774, 775, 777, 778, 779
Setty, K.R.V. 769, 770
Sewall, J.W. Co. 1072
Seymour, R.S. 1059

Seymour, W.R. 954
Shafer, E.L. 955
Shaw, J.H. 1007
Shukla, R. 757
Siehl, G.H. 956
Siitonen, M. 1024
Simmons, R.T. 865
Simpson, G. 720, 724
Simula, M. 834, 1116
Sinclair, A.W.J. 1060
Sinden, J.A. 916
Sinduredjo, K. 1190
Singham, S.S. 1117
Singleton, W.R. 1106
Smith, D.C. 996
Smykala, J. 861
Smyth, J.H. 838
Soismaa, M. 1160
Solberg, B. 786
Solecki, J.J. 1191
Sommer, S.L. 806
Somnasang, P. 751
Sood, K.G. 884
Sorg, C.F. 948
South, P.M. 708
Sowls, L.K. 1000
Spears, J. 725
Spears, J.S. 745
Spotts, D.M. 957
Sri Bharathie, K.P. 758
Stankey, G.H. 937
Starkey, D.A. 821
Steele, T.W. 1073
Steinlin, H. 726
Stier, J.C. 709, 1073
Stock, M. 807
Stoltenberg, C. 808
Straka, T.J. 695, 789, 1037
Strehlke, B. 809
Stumbles, R.E. 1038
Stynes, D.J. 957
Styrman, M. 1074
Sumitro, A. 759
Sutisna, W. 1039
Swain, K.M., Sr. 823
Szwak, L.B. 962

Tande, G.F. 890
Tansey, J.B. 1075
Tash, J.C. 1000
Temu, A.B. 835

Terrazas, V.A. 810, 811
Tesch, S.D. 1052
Tesoro, F.O. 1123
Thatcher, R.C. 888
Thompson, E.F. 812
Tomas, J.G.F. 727
Towler, M.N. 880
Tseng, A.Y. 1130
Tuan, M.S. 691
Twining, C.E. 669
Tyrrell, T.J. 958

U.S. Foreign Agricultural Service 1192
U.S. Forest Service 648, 896, 959, 990, 1206
U.S. General Accounting Office 836
Uhler, R.J. 821
Underhill, A.H. 985

Van den Beldt, R.J. 771
VanDoren, C.S. 960, 961
VanHorne, M.J. 962
Vasievich, J.M. 696, 710, 1029
Veirs, S.D., Jr. 897
Vergara, N.T. 750, 760, 761, 772
Vlachos, E. 649
Vlosky, R.P. 1187
Vogt, U. 650

Walker, B.B. 862
Wallace, J.P. 963
Wallace, S.J. 964
Walters, P. 1193
Warnick, R. 934
Warnick, R.B. 965
Warren, B.J. 813
Watson, A.E. 966
Watson, R.B. 1084
Watson, W.F. 695
Weaver, G.H. 835
Weaver, S. 821
Weidenhamer, M. 872
Weintraub, A. 982, 1061
Wellman, J.D. 910, 911
Werblow, D. 1043
West, K. 814
West, P.C. 967
Western, A. 1118
Wetherill, G.R. 898
White, M.N. 821

White, W.B. 899
Whitney, G.G. 670
Wibe, S. 1074
Wiberg, A. 1067
Widarmana, S. 1119
Williams, J.J. 800
Willis, C. 986
Wills, D.L. 1001
Wilson, F.G. 1062
Winget, C.H. 854
Withrow, S. 913
Wittwer, R.F. 1008
Wong, P. 977
Wong, T.B. 1060
Wood, J.D., Jr. 968
Wood, R.E. 900
Wood-Products Stockpile Corp., Japan 1194, 1195, 1196
World Resources Institute 837

Xaba, A.B. 985
Young, A. 773
Young, M.D. 916

Zahner, R. 875